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For Thursday's News

See the Coloured Supplement.

The Educational Number of the "C. & D."

Will be published on Saturday, September 7.

A New Book.

We have reprinted our Diary monograph, "Opening a Pharmacy" in book form, uniform as to binding with the "Art of Dispensing." The price is 1s. net, or 1*s.* 1*d.* post free. It is a most useful book for those who contemplate starting in business as chemists and druggists.

Summary.

Empire, City, Killarney, and Alchemy are the emblems on the cover.

Hoof-treatment is the subject of veterinary notes on p. 169.

The Microbe of Syphilis has been described and its characteristics delineated (p. 151).

A Question on the sale of cocaine has been answered in Parliament (pp. 151 and 189).

Pharmacy at Nantes on a cattle-show day is described by our French correspondent (p. 115).

The Bulgarian Otto of Rose Crop is dealt with fully on p. 149, yield and price being discussed.

The Alkali-works Regulation Bill has been read a second time in the House of Commons (p. 190).

The Evolution of the bottle is depicted by Mr. Fred Reynolds in a series of phases beginning on p. 157.

Mr. John Chaloner, a Nova Scotian pharmacist, is the pharmaceutical veteran referred to on p. 183.

An Anglo-Scot who served his pharmaceutical apprenticeship in Germany describes his experience (p. 145).

The Pharmaceutical Society of Cape Colony has had the opportunity of social relaxation, it appears (p. 116).

Mr. E. J. Parry, B Sc., gives a hint in regard to the application of Schimmel's alcohol-test for citronella oil (p. 142).

The Manufacture of coated pills, as devised by Mr. A. H. Cox, is the subject of an illustrated article beginning on p. 154.

Hydrastin is the subject of Mr. Lewis Ough's twelfth note on resinoids. He describes its origin, preparation, and properties (p. 152).

A Large Number of Novelties are described on p. 120, and Our Town Traveller has discovered others, which are mentioned on p. 117.

Spanish Pharmacy has peculiarities, but is Frenchy in character, as will be seen from an illustrated article printed on pp. 139–142.

Aconite, pseudaconitine, and japaconitine are alike in action, but of different toxicity. Professors Cash and Dunstan report on the matter (p. 146).

Our Death-record includes the names of Dr. H. C. C. Maisch, Mr. Gilbert Thonger, Birmingham, and Miss Eleanor Ormerod, the entomologist (p. 190).

Six Swiss Pharmacies are depicted and described on pp. 143 and 144, and good hints are given in the article to those who think of taking a holiday near Lucerne.

Pharmaceutical Preparations are not patentable in France. There is a possibility of some chemical compounds, not medicinal, being treated as pharmaceutical (p. 149).

A lady takes this month's first prize in the Students' Corner. An essay on persulphates is the subject for the August competition, and we invite a good response (p. 110).

Pharmacy in Kent consists of notes and pictures of pharmacies gathered in Margate, Ramsgate, Broadstairs, Birchington, Westgate, Dover, Folkestone, and Canterbury (p. 134).

Mr. G. Claridge Druce, Mayor of the City of Oxford and President of the British Pharmaceutical Conference, is the subject of an illustrated appreciation beginning on p. 158.

"Xrayser's" Topics are the Marquis of Salisbury on early closing, the P.A.T.A. and C.D.A., poison-sale supervision, the *Law Quarterly* on the Worcester case, and our Dublin article (p. 147).

Quicksilver is 2*s.* 6*d.* lower; menthol has advanced 6*d*; senega is 1*d.* dearer; opium is quiet; quinine is dull; and tartaric acid is easier. The cinchona-auctions on Tuesday went off at a ¼*d.* decline in the unit (p. 186).

Java now produces most of the cinchona in the world. From Mr. F. L. Seely, St. Louis, we have received notes and pictures embodied in an article beginning on p. 164, the manufacture of quinine also being described.

"The Apothecary's Art in Dublin" is the title of an article in which the Irish capital's pharmaceutical associations, pharmacists, and pharmacies are described and figured up to date, *à propos* of next week's Conference. It begins on p. 125.

Mr. J. W. Swan, President of the Society of Chemical Industry, has furnished us with some notes of his career as a pharmacist (p. 171). On Wednesday he delivered the address to the Society at the meeting in Glasgow on electrical progress during the nineteenth century. We report this meeting fully.

Corner for Students.

CONDUCTED BY LEONARD DOBBIN, PH.D.

Students, please note. All communications should be addressed to the Editor of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

All communications must bear the names and addresses of the writers, not necessarily for publication.

AN ESSAY COMPETITION.

WE propose to vary the nature of our exercise on the present occasion by asking our correspondents to submit competitive essays, for which we propose, as in the case of the analytical exercises, to award the usual first and second prizes. The subject which we propose is "The Persulphates and their Applications," and we leave the mode of treatment of the subject entirely in the hands of our correspondents. Essays should not extend to more than 1,500 words, and should be forwarded to the Editor, who will receive them up till Wednesday, August 14. We reserve the right to publish the essay which is placed first in the competition should it prove to be of sufficient merit.

REPORTS.

The powder distributed to students on July 3 contained 5 parts of magnesium hydroxycarbonate, 4 parts of ordinary sodium phosphate, and 1 part of zinc sulphide.

The calculated composition of such a mixture is—

Zn	6·7
Mg	12·7
Na	5·1
H	·1
S	3·3
CO_3	23·5
PO_4	10·6
OH	4·4
H_2O	33·5
	99·9

Small quantities of an ammonium salt and traces of thiosulphate were present as impurities.

Samples were distributed to 46 applicants, and 20 reports were received in reply.

The failures in the detection of the several constituents of the powder were:—(*a*) Metallic radicals: zinc, 5; magnesium, 4; sodium, 1; (*b*) Acid radicals: hydrosulphuric, 3; carbonic, 6; phosphoric, 3. Exactly one half of those who sent in reports failed to observe the large quantity of water liberated when the powder was gently heated in a dry test-tube.

Complicated to some extent by containing a phosphate, the present exercise presented analytical features which involved some of our correspondents in difficulties. A few failed to recognise the presence of phosphate, while others who were aware of its presence did not take any steps to deal with it specially, and both sets fell into error in consequence, mistaking the group precipitate produced by ammonium chloride and ammonia for aluminium hydroxide, whereas it consisted almost entirely of magnesium ammonium phosphate. We recommend all to whom these remarks apply to study the methods of dealing with phosphate-mixtures as described in any of the standard text-books.

In preparing a solution for the separation of the phosphoric-acid radical as ferric phosphate, by dissolving the ammonium chloride and ammonia precipitate in hydrochloric acid and adding sodium or ammonium acetate, a number of students got a voluminous white precipitate on the addition of the acetate, which they supposed to be aluminium phosphate. The precipitate dissolved completely, however, when enough acetic acid was added, and was thereby proved not to consist of the latter substance. It was really zinc phosphate (zinc being present owing to the incomplete washing of the original precipitate), and accordingly it dissolved easily in potassium hydroxide, as aluminium phosphate should. Care should always be taken to first prove the insolubility in moderately concentrated acetic acid of any precipitate that may be formed at this stage.

We have been unable to confirm the presence of several impurities reported by a number of correspondents. Thus, while iron is somewhat frequently reported, our endeavours to obtain distinct evidence of its presence were fruitless when employing comparatively small quantities of the powder, such as our correspondents might be expected to use. We attribute the apparent detection of considerable traces of iron to its presence as impurity in the acid employed to dissolve the powder, or to the use of an old solution of ferrocyanide in testing for it. When a little of the powder was dissolved in dilute hydrochloric acid, and the solution was boiled with a drop of nitric acid, cooled, and mixed with potassium thiocyanate, the faint colouration produced in the liquid could only indicate the presence of extremely minute traces of iron. Freshly-prepared solution of potassium ferrocyanide did not give any recognisable indication. Even when operating upon comparatively large quantities we failed to get any evidence of the presence of calcium which at least half of our correspondents report. The sulphuric and hydrochloric acid radicals, which some report, were apparently introduced into the solution to be tested for acid radicals, as impurities in the sodium carbonate employed to prepare that solution. When a pure sample of sodium carbonate was used, the reactions of these radicals were not observed.

A few correspondents who observed the evolution of gas-bubbles on mixing the powder with dilute hydrochloric acid, and who recognised the odour of hydrogen sulphide, omitted to further examine the evolved gas for the possible presence of carbonic anhydride, and thereby failed to detect carbonate. The present exercise was specially devised to draw attention in this way to the necessity of searching for the less obvious constituents of the powder in the known presence of those which may be recognised by more superficial obervation.

One or two correspondents greatly simplified the analysis for themselves by first extracting the soluble sodium phosphate with water, and then dissolving the insoluble magnesium carbonate and zinc sulphide in hydrochloric acid. In one instance, which is worthy of special mention, the three main ingredients of the powder were separated and recognised by successively treating it with water, acetic acid, and hydrochloric acid. Water extracted the sodium phosphate, acetic acid decomposed the magnesium carbonate with evolution of carbonic anhydride, and then hydrochloric acid decomposed the zinc sulphide with evolution of hydrogen sulphide.

PRIZES.

The First Prize for the best analysis has been awarded to

ANNIE M. BARR, 57 Kempock Street, Gourock.

The Second Prize has been awarded to

JAMES R. STOTT, c/o William Murray Maxton, chemist, Kelso.

First Prize.—Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize

Second Prize.—Any scientific book which is sold for about five shillings may be taken as a second prize.

The students to whom prizes are awarded are requested to write at once to the Publisher naming the book or books they select.

Marks Awarded for Analyses.

Annie M. Barr (1st prize)	95	P. C. Brett	74
James R. Stott (2nd prize)	94	E. G. Fuller	74
Rex	93	J. R. Huck	66
St. Nicholas	87	Brooke	66
J. M.	86	John S. Caulton	56
Alex. T. Hope	84	Lucifer	53
Chieri	84	F. H. M.	51
S. V. R.	80	W. L. Adams	46
Jegow	79	L. J.	40
Zirconium	77	Romeo	18

To Correspondents.

Special Memoranda, suggested by this month's reports:—

1. Do not conclude that a sulphide is present unless there is other evidence besides the evolution of hydrogen sulphide on heating a substance with concentrated sulphuric acid. The gas may be due to the reduction of the sulphuric acid.

2. Do not employ a barium salt in presence of concentrated hydrochloric or nitric acid to test for acid radicals. A precipitate of barium chloride or nitrate may be formed under such conditions, as these salts are very sparingly soluble in moderately concentrated acids. An abundant precipitate which has been taken for barium sulphate is sometimes found to dissolve completely on the addition of a moderate quantity of water.

3. When a negative result is obtained in testing for the phosphoric acid radical by means of ammonium molybdate, before throwing out the contents of the test-tube, add a trace of a soluble phosphate and, if necessary, wait for a short time to observe the formation of a yellow phosphomolybdate precipitate. This precaution is advisable in order to prove that the conditions of the negative experiment were suitable for indicating phosphate had it been present. Improperly prepared solutions of molybdate occasionally undergo changes which render them useless in testing for phosphate; and the presence of chlorides in the solution under examination may also interfere with the proper course of the reaction.

4. Make sure that the red litmus-paper you employ in testing for ammonia does not contain too much free acid. Many samples contain enough acid to render them far from sensitive to traces of ammonia.

5. Read again and carefully note the Special Memoranda of the last two months (*C. & D.*, May 25, page 819, and June 29, page 1011).

James R. Stott.—Your preliminary examination of the powder, and the closely reasoned and accurate conclusions you deduced from it, are of a quite exceptionally meritorious description. We regret that your failure to detect the small quantity of ammonium compound present precludes our placing your paper first in order of merit. We are at a loss to explain this failure, unless the red-litmus paper you employed contained too much free acid to give a reaction with traces of ammonia. In our hands the test for ammonia, carried out as you describe, gave an almost immediate indication.

Rex.—Your mode of testing for ammonia was too rough to indicate the presence of traces. Carry out the test as described in the "Corner" last month (*C. & D.*, June 29, page 1010).

St. Nicholas.—The precipitate you obtained on adding barium chloride to the portion of the sodium carbonate extract for acid radicals which had been neutralised with acetic acid, consisted of barium phosphate, not sulphite. It is not safe to conclude that a sulphide is present because hydrogen sulphide is evolved on heating a substance with concentrated sulphuric acid. The hydrogen sulphide may be due to the reduction of the latter acid by some easily oxidised constituent or decomposition product of the substance.

J. M.—The quantity of zinc present in the powder was distinctly more than a trace. The trace of hydrochloric acid radical that you found probably came from the sodium carbonate you employed in preparing the solution for acid radicals. You do not report having tested for ammonium compounds.

Alex. T. Hope.—You report the formation of "a yellowish-white gelatinous precipitate" when testing for the phosphoric acid radical with ammonium molybdate. The precipitate that you should obtain if phosphate is present is finely crystalline, and of a rather bright yellow colour. See also the second and third sentences of the reply to "St. Nicholas."

Chieri.—Why do you not employ the usual test for carbonate by liberating carbonic anhydride by means of dilute hydrochloric acid, and passing the gas into solution of calcium hydroxide? Examination of the present powder for carbonate by getting it into solution—how, you do not state—and adding mercuric chloride was quite futile.

S. V. R.—See general remarks, special memoranda, and replies to several correspondents above.

Jegow.—It is a mistake to add undiluted nitric acid when testing whether a precipitate formed by the addition of a barium salt is soluble or not in nitric acid. Barium nitrate is itself very sparingly soluble in concentrated nitric acid, and has been frequently mistaken for barium sulphate when formed, as it may easily be, under these circumstances. See also reply to "S. V. R."

Zirconium.—The precipitate you tested for iron, aluminium, and chromium consisted mainly of magnesium ammonium phosphate, and should have been treated in the special manner applicable to phosphates. Although the gas liberated from the powder on adding dilute hydrochloric acid possessed the odour of hydrogen sulphide, you should not have omitted to test it for carbonic anhydride also.

P. C. Brett.—See latter part of reply to "Zirconium."

E. G. Fuller.—The precipitate you supposed to contain aluminium consisted of zinc phosphate. Its formation was not prevented by the comparatively small proportion of free acetic acid present in the solution. More acetic acid would have redissolved it completely. See general remarks.

J. R. Huck.—You are practically certain to find carbonate in the solution obtained by boiling a substance with solution of potassium hydroxide, whether the substance contained carbonate or not. All solutions of potassium hydroxide contain carbonate, unless the most elaborate precautions have been taken to prevent this.

Brooke.—We are unable to explain your failure to detect the presence of zinc and the evolution of carbonic anhydride. The presence of magnesium in the filtrate from the precipitate produced by ammonium chloride and ammonia (as well as in the precipitate itself) was due to the fact that the phosphoric acid radical was not sufficient in quantity to combine with the whole of the magnesium present and convert it into an insoluble phosphate.

John S. Caulton.—You refer to a "solution of the salt in dilute acetic acid;" but the powder did not dissolve completely in acetic acid. Surely you did not add your reagents to a turbid mixture!

F. A. M.—The colour you observed in the chloroform in your test for bromide was due to the chlorine you added. Chlorine water imparts a distinctly yellowish colour to chloroform when shaken up with it.

L. J. and Romeo.—Many of your conclusions are founded upon evidence which is insufficient. You will find it an excellent plan to prepare a mixture resembling the present exercise, and to practise upon it until you thoroughly comprehend its behaviour towards the various reagents.

"The Art of Dispensing" (Ed. VI.).—It is certainly an excellent little work.—Professor George F. Payne, Atlanta, Ga.

Get your Apprentice, that is or is to be, to read the "Guide to Preliminary Examinations," published by the *C. & D.* It deals with Latin, Arithmetic, English, Algebra, Euclid, French, and German, also with the London Matric. Examinations of the College of Preceptors, the Educational Institute of Scotland, and the Oxford and Cambridge Locals—recognised by the Pharmaceutical Society of Great Britain. The book tells how to prepare for the examinations, the best books to get, when the examinations are held, and how to enter for them. Specimens of the examination-papers are given and worked out. The book is invaluable to all who are entering the drug-trade. Price 2*s.* 6*d.*; by post, 2*s.* 9*d.*

English News.

Local Newspapers containing marked items of news interesting the trade are always welcomed by the Editor.

Brevities.

At Sheffield on July 16, 60 1*l.* fully-paid ordinary shares in Boots (Limited) fetched 2*l.* 3*s.* 6*d.* each.

Mr. R. Hawkes, pharmaceutical chemist, has been appointed chemist to Stratford-on-Avon Workhouse for the ensuing half-year.

Only one sample of drugs—viz, camphorated oil—was taken for analysis in Hertfordshire last quarter, and that proved to be B.P. quality.

The Spalding Board of Guardians have accepted the tender of Messrs. Donington & Co., chemists, for the supply of cod-liver oil at 5*s.* per gal., and of quinine at 1*s.* 9*d.* per oz.

The following chemists in Harlesden, N.W., have decided to close on Thursday afternoons from 2 P.M. to 6 30 P.M.:—Messrs. Brooke, Dwelly, Cox, Goodchild, Hobbs, Kerr, Knight, Perfect, and Sangster.

At New Mills on July 17, Jas. Moore was sentenced to twenty-one days' hard labour for stealing a bottle of cod-liver oil, value 1*s.*, from the shop of Messrs. Alfred Livesley & Sons, chemists and druggists, New Mills.

The Chemists' Exhibition is this year to be held in Covent Garden Theatre, London, for five days, beginning Monday, August 26. Particulars may be obtained on application to the manager of the exhibition, 44 Bishopsgate Street, E.C.

The directors of the Crystal Place announce an American Exhibition in 1902, and that it is their intention to make it the largest and most important display of American commerce, industries, and inventions yet seen in England.

At Hayward's Heath on July 22, Edward Simmonds, grocer, Twineham, was fined 10*s.*, including costs, for selling sweet spirit of nitre which the county analyst (Mr. Samuel A. Woodhead) certified to be deficient in ethyl nitrite by at least 70 per cent.

On July 19 burglars entered the pharmacy of Messrs. Dunkley & Rogers, High Street, Tunbridge Wells, broke open the till, and stole a considerable sum of money, besides wantonly destroying a number of cheques and business memoranda.

John Henry Nicholson, of Chiswick, "aural specialist," appeared again before the Brentford Magistrates, on July 20, to answer a charge of obtaining money by false pretences. Further evidence having been given, the case was again adjourned, bail being refused.

An inquest was held last week at South Norwood on the body of Nellie Roadnight Rees, 11 (daughter of Mr. Harding Rees, chemist and druggist, South Norwood), who fell from a swing in the playground of Surrey House School, Croydon Road, and sustained injuries from which she died.

A petition has been drawn up, and is being extensively signed in the Hartlepools, praying for the commutation of the death-sentence passed upon John William Carter, the herbalist, found guilty of causing the death of a woman by performing an illegal operation. The sentence has been commuted to penal servitude for life.

On July 17 the Cardiff chemists' assistants went on a botanising expedition in the Roath public park; Mr. A. S. Swadling (Vice-President) acted as instructor, but owing to the intense heat which prevailed very few of the members attended. The assistants will have their first annual picnic to Clevedon next Wednesday.

At a meeting of the London County Council on July 23, the Technical Education Board in their report stated that it had been represented to them that it was in the provision for technological instruction of high grade, especially in chemistry and electricity, that London was now most lacking, and they had appointed a special sub-committee to make inquiry into the matter and report.

At the half-yearly meeting of the College of Preceptors on July 20, Dr. Wormell said the professional preliminary examination for intending medical students and others was attended by 172 candidates during the past year, a considerable increase as compared with the last examination. This was partly due, he explained, to the entry of a number of candidates who desired to qualify as pharmaceutical students, now that the special examinations for that purpose had been discontinued.

The Prescriber's Initials.

At an inquest held by Dr. Danford Thomas on July 19, on the bodies of the two young actresses who poisoned themselves in Bloomsbury with cocaine, evidence was given by Mr. Frederick Bullock, chemist and druggist, manager for Messrs. Lewis & Burrows (Limited), New Oxford Street, W. Mr. Bullock said he did not remember the ladies, but the cocaine solution found in their rooms was supplied in accordance with a prescription, which contained no directions. Three bottles of the solution had been supplied—on June 30, July 15, and July 16 respectively—and only the initials of the doctor appeared on the prescription. The jury, in returning a verdict of suicide while temporarily insane, added a rider to the effect that the full name, and not initials only, of medical men should be appended to such prescriptions, and the name and address of the purchaser should also be given.

Appreciation.

On Thursday afternoon, July 18, the large packing-room of Evans, Sons & Co, Hanover Street, Liverpool, presented an unusual appearance. The entire floor was covered by a dense crowd of employés, numbering about 600, who gathered together to do honour to Mr. John Blyton, who had been in the service of the firm for over forty-six years. Mr. C. F. Malvern, manager of the warehouse, occupied the chair. The secretary of the fund (Mr. T. H. Wardleworth) read letters from several of Mr. Blyton's old colleagues, who regretted their inability to be present. Mr. John James Evans (senior acting partner), on behalf of the employés, then presented Mr. Blyton with a handsome silver tray and hot-water jug, the former bearing an inscription testifying to the esteem in which he was held by his fellow-workers. Mr. Evans spoke in most felicitous terms of the value of the services rendered by the recipient of the testimonial, and said that in his early days he had had to depend much on Mr. Blyton's judgment. His straightforwardness, diligence, and courtesy had never failed, and he hoped Mr. Blyton would be spared many years of good health to enjoy the rest and recreation which he had so richly earned. Mr. W. Paterson Evans, Mr. E. N. Evans, and Mr. J. Herbert E. Evans endorsed all that had been said as to the sterling worth and ability of their late representative; and Mr. Jos. McCaig, representing the office staff, spoke of the value Mr. Blyton's example had been to the younger men in the employ of the house. Mr. Blyton, in responding, spoke with some emotion, and said he would treasure the tray and jug, as a memento of the cordial relations which had always existed between him and his colleagues. He had been inspired to do his best in every way by the treatment he had received from the firm. The meeting then broke up, "For he's a jolly good fellow" and the National Anthem forming a fitting *finale*.

Guardians' Affairs.

The Ellesmere Board of Guardians on July 16 discussed the workhouse medical officer's application for an increase of salary. Dr. Sankey, the only medical man on the Board, contended that the medical officer was abnormally underpaid, and he thought either that the salary should be increased, or the Board should supply the drugs and dressings. Eventually the Board decided to increase the salary to 24*l.* per year, an increase of 4*l.*

At a meeting of the Tonbridge Board of Guardians on July 19, one of the members drew attention to an increase of 18*l.* in the bill for drugs. He pointed out that the drug-bill had increased 50 per cent. in five years, and he considered that there should be some checking system of the drug-accounts, which were assuming very serious proportions. The Master said he thought the increase was due to more surgical appliances and dressings being required. It was decided that in future a separate account of the drugs used should be kept.

Arsenical-poisoning Commission.

The first report of the Royal Commission of inquiry into arsenical poisoning from the consumption of beer and other articles of food and drink has just been issued in the form of a Blue-book. The commissioners have evidence that at the present moment analysts are not agreed as to the most efficient test to detect minute quantities of arsenic in beer, and as to this they propose to make further inquiry. No evidence tending to show that articles of food or drink other than beer have been concerned in the recent epidemic was elicited, analysts' results being for the most part negative. It would be unwise, however, to assume that particular articles of food are free from risk of arsenical contamination because certain samples examined at a particular time have been found free from arsenic. By inviting the co-operation of analysts throughout the country the commissioners hope to obtain further evidence. They recommend in the interim that, as breweries are already subject to close inspection by the Board of Inland Revenue, the machinery under that system might effectively be turned to account to check the introduction of arsenic into beer by way of its ingredients, by requiring the brewer to produce satisfactory evidence (in the form of a guarantee, or as the result of an analysis by his chemist) that certain prescribed tests have been applied to all the ingredients specified as likely to contain arsenic.

Birmingham Notes.

The Victoria Institute, Worcester, to which Lord Beauchamp has guaranteed 100*l.* annually for six years, is to be affiliated to the Birmingham University.

King Edward's School for Girls has just sent a representative to the University in Miss Hilda Hartle, who has been awarded a Gilchrist Fellowship for original research in chemistry.

The heat which has prevailed in the city during the past week has caused quite an epidemic of suicides—attempted and accomplished—and has alarmed the Stipendiary, before whom as many as six would-be suicides appeared at one sitting.

Some years ago the use of stannic oxide for pepper was the cause of the death of a Leamington chemist. Now we read that a gentleman living at Winson Green sat down to fried fish and potatoes, and in place of sauce poured over his meal the contents of a bottle he found in the cupboard. Next morning, to his horror, he found that he had consumed his son's red ink. No harm has resulted.

On July 18 the first floor of a building situated at the rear of the Spread Eagle Hotel, Sprecal Street, collapsed. The building was formerly a concert-hall, but has latterly been used as a store by Messrs. Southall Brothers & Barclay (Limited), and among the contents on the first floor were about 70 gals. of embrocation. The premises appear to have suffered much from a fire which occurred a short time ago.

The Spectacle-makers' Examination.

Col. T. Davies Sewell informs us that it was resolved at the last Court of the Worshipful Company of Spectacle-makers that after this year no candidate under the age of 21 will be admitted to the examination. The examination to be held in November will be the last for persons under age.

Cricket.

Druggists' League.—A match was played in this competition on July 20 at West Ham Park between "City Mills" C.C. (Stafford Allen & Sons) and "Davy Hill's" C.C. Scores: D.H.C.C., 80; C.M.C.C., 53. For winners Tombs captured 5 wickets for 9 runs, and E. Dellar scored 19. For the losers Franks scored 22.

Boots C.C. (Sheffield) *v.* Heeley Tradesmen.—This match was played at Millhouses on July 18, the chemists winning easily. Scores: Heeley, 48; Boots, 85 for 8 wickets.

The Dangers of Camphor.

An inquest was held at Hillhouse, near Huddersfield, on July 19 on the body of a 3-year-old child named Mitchell, who died after taking some camphorated oil, obtained some weeks before from the pharmacy of Mr. Swift. The mother gave the child an emetic of salt and water, but it died five hours later. Mr. Albert E. Hardy, surgeon, Huddersfield, said he thought the cause of death was camphor-poisoning acting on a body already enfeebled by illness. The amount of camphor in $\frac{1}{4}$ oz. of camphorated oil (which was stated as the amount taken) would be nearly 30 gr., and that dose has been known, the doctor said, to prove fatal in ten hours to a child fifteen months old. In reply to the Coroner (Mr. E. H. Hill), Dr. Hardy said camphor was decidedly a poison, although not generally looked upon as such. Twenty grains, he said, had been known to cause grave symptoms in an adult. This was the first fatal case he had had in Huddersfield, but he had treated other cases of camphor-poisoning elsewhere. In further examination, the doctor said he thought it advisable that camphorated oil should be dispensed in poison-bottles and the word "Poison", put on the label. The jury returned a verdict that the deceased died from poisoning by camphor administered by misadventure, and the Coroner said he hoped the public would be warned to be careful in the use of camphorated oil or camphor.

Refused the Doctor.

At an inquest held at Boston on July 19 on the body of a sawyer named Powell, aged 63, it was stated that deceased had been ailing for a fortnight previously, but refused to see a doctor. He latterly consulted Mr. Talbot, herbalist, who gave him some medicine and pills, telling him there was nothing seriously the matter with him. Deceased died thirty-six hours later. Dr. Tuxford, who made a *post-mortem* examination, attributed death to syncope. The jury, in returning a verdict of death from natural causes, added a rider to the effect that if a proper medical man had been called in the man's life might have been saved.

Fires.

On July 19 a fire broke out on the premises of Mr. Caleb Davies, druggist, Pontycymmer, on a floor where various oils were stored. Owing to the ready assistance afforded by neighbours the fire was extinguished but not before damage to the extent of about 50*l.* had been done.

On July 18 a fire occurred at the pharmacy of Mr. J. Mudie, chemist and druggist, Fore Hill, Ely. Mr. Mudie recently fitted up a laboratory with a south aspect, and it is thought that the intense heat of the sun caused combustion. Several sets of false teeth and dental material were destroyed, the total amount of damage being 50*l.*

The Treatment of Whooping-cough.

At an inquest held at Brighton on July 22 on the body of a boy 14 months old, the mother of the deceased child said that for the last three months it had been suffering from whooping-cough. She had not thought it sufficiently bad to call in a doctor, but had herself administered at times balsam of aniseed and consumption and cough specifics which had been recommended to her. Dr. Douglass Ross, who had made a *post-mortem* examination, found that deceased had suffered from bronchial pneumonia, but death had been due to convulsive seizure consequent upon whooping-cough. He strongly deprecated the practice of parents giving children suffering from whooping-cough any patent medicines, as, in his opinion, whooping-cough ranked next to scarlet fever, and medical advice should certainly be obtained in all such cases.

The Sale of Poisons.

An inquiry was held at Torquay on July 22 relative to the death of Sarah Ann Reed, aged 65, who was found lying on the floor of her bedroom quite dead. A packet of oxalic acid was found under the bolster on the bed. Dr. Cook said deceased probably took an ounce of oxalic acid, and apparently poured it down her throat in a dry state. Mr. T. H. Ness, chemist and druggist, whose label was on the packet, said he was positive he did not sell the poison to deceased, nor did he know to whom or when it was sold

The poison was commonly used for cleaning straw-hats. It must have been purchased from his shop. The Coroner inquired whether there would be any objection to putting oxalic acid in the first part of the schedule of poisons. Mr. Ness said there was a considerable demand for the acid. Chemists would not oppose its being so scheduled. The Government was the main obstacle. Very few people bought the poisons they had to sign for. Therefore restrictions were valuable.

An inquest was held at Leicester on July 20 on the body of the wife of a grocer's manager named Brown, who had been ailing for some time. A bottle which had contained prussic acid was found in the kitchen of deceased's house; and Dr. Williams, who was called in, said death was due to prussic-acid poisoning. The bottle found in the house would hold an ounce of the acid, he said, and it was empty. According to the label the acid was of German manufacture. The Coroner observed that there was no evidence to show how deceased came into possession of the bottle, and it seemed strange to him that a poison like prussic acid could be procured by the deceased without the name of any responsible chemist or manufacturer appearing on the label, which did not even bear the word "poison."

At an inquest held at Wilmslow, on July 16, on the body of a man named Fletcher, who committed suicide by taking chlorodyne, it transpired that the deceased purchased the poison at the shop of Mr. N. Burns, chemist and druggist, Wilmslow, saying that it was for diarrhœa. George Little, the assistant who served deceased, said that deceased, after saying what he wanted it for, inquired what was the dose. Witness placed on the bottle a label in accordance with the Pharmacy Act. The Coroner (Mr. H. C. Yates) pointed out that the regulations required chemists to put chlorodyne, not in an ordinary medicine bottle, but in one that was distinguishable by touch (*sic*). Little said he thought he had done all that was required in a case like this. Chlorodyne was often used for diarrhœa, and he told the deceased how to take it, as well as labelling the bottle for him.

Poisonings of the Week.

Since our last report twelve fatalities from poisons have been recorded. Carbolic acid was responsible for four deaths, oxalic acid and prussic acid for two each, and laudanum for one. These are all the scheduled poisons that were used, the remaining deaths being caused by camphor (reported elsewhere), an infusion (or solution) of matches and spirit of salt. One of the carbolic victims was George Samuel Kimble, aged 29, a dockyard labourer, on whose body an inquest was held on July 22 by the Devonport coroner. Deceased took the acid in porter. Mr. John Alfred Lamble, chemist and druggist, Devonport, said the bottle was similar to those in which he sold poisons. He did not recollect selling carbolic acid to deceased or his wife, but an immense quantity of the acid was sold in that part of the town for killing vermin. He (Mr. Lamble) was always careful to make every inquiry as to what the carbolic was to be used for, and he sold it in a blue corrugated bottle.

The Bogus Order Cases.

At the Mansion House on July 18, William Kendrick (49) and Frederick Williams, *alias* A. J. McIntyre, were charged on remand with obtaining, and attempting to obtain, goods by means of a forged order. It was stated that on July 1 a camera, worth 12*l.* 12*s.*, was obtained from Messrs. R. & J. Beck (Limited), manufacturing opticians, 68 Cornhill, on the strength of a written order, purporting to come from Messrs. Corbyn, Stacey & Co. (Limited), wholesale druggists, 300 High Holborn. A second order was presented for three cameras and a microscope, to the value of 42*l.* 16*s.*, and was believed to be genuine. In that instance, however, the goods were not handed over to the boy who was sent for them, but were afterwards forwarded to the firm, who, of course, repudiated the order. On May 28 a third order, purporting to come from the same firm, was presented at the establishment of Mr. J. Morgan Richards, 46 Holborn Viaduct, E.C., and goods to the value of 24*l.* 12*s.* were obtained. It was proved that McIntyre was formerly in the employ of Messrs. Corbyn, Stacey & Co., and the forged order was supposed to have been written by him. It was also stated that Kendrick tried to dispose of the camera to Mr. David Matthews, a warehouseman, of Hearn Street, Finsbury. Matthews said he had known Kendrick for twenty years, and looked upon him as an honest business man. When McIntyre was arrested a number of blank order-forms were found upon him. Eventually the Lord Mayor committed McIntyre for trial, and Kendrick was discharged. [See also later page.]

Irish News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Weights too Light.

At the Belfast Summons Court last week, Messrs. John Watson & Co., wholesale druggists, 52 and 54 Donegall Street, were fined 40*s.* and costs for having in their possession eight light weights.

Carbolic-acid Poisoning.

On July 19 the inquest was resumed by the Dublin City Coroner (Dr. Byrne) into the death, by carbolic-acid poisoning, of Edward Dempsey, who died in Sir Patrick Dun's Hospital on July 11. Sir Chas. Cameron had made an analysis of the contents of the stomach, which confirmed the opinion given by the hospital house-surgeon (Dr. Ball) that death was caused by carbolic acid.

Spirit-accident.

On July 19, while a lad named McFarlane was in the act of filling a methylated-spirit lamp, the flame from the wick of which had not been properly extinguished, in the shop of Messrs. Hayes, Conyngham & Robinson, at Fairview, Dublin, the spirit became ignited and an explosion occurred. The lad was seriously injured about the head, face, and left leg, and is at present in the Jervis Street Hospital.

Dublin Chemist's Death.

On July 20, Mr. William Bloomfield Murray, pharmaceutical chemist, 139 St. Stephen's Green, Dublin, was found dead in bed. Deceased, who was only aged 29 years, had, it appears, sprained his ankle two days previously. The ankle became painful on Friday, and Mr. Murray's brother sat up with him till 2.30 in the morning of Saturday. He awoke at 7 o'clock, and found his brother dead in bed. Mr. Murray was a native of Limerick, and before he started business in St. Stephen's Green was at Butler's Medical Hall, Lower Sackville Street. An inquest was opened on July 22, when Dr. R. James Harvey, who attended deceased for the fall downstairs, which sprained his ankle, said a *post-mortem* examination showed that death was due to dislocation of the fourth cervical spinal vertebra, with hæmorrhage into the roots of the phrenic nerve. The inquest was, however, adjourned to allow of an analysis of the contents of the stomach to be made, as an inference had been made that poison had been taken.

Scotch News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Personal.

Mr. John Wishart, B.Sc. Aberdeen, who served his apprenticeship to the drug-trade, has just passed the final medical examination there for the degrees M.B., Ch.B.

Edinburgh Pharmacy Golf Club.

The winners of the trophy presented by Messrs. T. & H. Smith & Co., of Edinburgh and London, which was played over the Braids last week, are Messrs. Harry Smith and G. H. Clarke.

Laudanum-poisoning.

An unknown man, apparently a miner, was picked up unconscious off the street in Lanark last week, and conveyed to the police-station. Two medical men who were called in found him to be suffering from laudanum-poisoning. He never rallied, but died next morning.

Business Changes.

Mr. James Walker, chemist and druggist, has acquired the business so long carried on by Mr. Thomas Cullen at 12 St. James's Place, Paisley.

Mr. Walter Davidson, chemist and druggist, has purchased Mr. James McGlashan's business at Blairgowrie. Mr. McGlashan continues at Alyth.

First Aid.

An explosion occurred at Tod's Flour Mills, Stockbridge, on July 16, at which several workmen were injured. The sufferers were first attended to in the branch shop of the Scottish Drug Depot (Limited) (of which Mr. R. Tait Linton, pharmaceutical chemist, is manager), which is situated opposite the scene of the disaster.

French News.

(From our Paris Correspondent.)

ASSUMED NAMES IN TRADE.—A Paris perfumer some time ago started a business which he called the "Récamier Perfumery," which, if anything, appeared to be a delicate compliment to the memory of the beautiful and witty French lady who bore that name. But one of her descendants, Dr. Récamier, surgeon of the Saint-Michel Hospital, Paris, looked upon it as an usurpation and brought an action against the perfumer for trading under a borrowed name. Judgment was given for the plaintiff; and, in summing up, the Judge said the perfumer had no right to use the name Récamier, and that the abuse was all the more regrettable as he advertised a system of massage for preserving health as being practised at his shop, which the public might easily attribute to Dr. Récamier, the plaintiff. The defendant was ordered to entirely discontinue the use of the name Récamier in connection with his business within a fortnight from the date of judgment under penalty of a fine of 50f. (2*l.*) per day.

DEFRAUDING PHARMACISTS.—M. Eugène Renaux, pharmacist, of 38 Rue de Ramey, Paris, was a victim of a theft a few days ago, supposed to have been committed by a former assistant, one Dourche, who called to see his successor one afternoon when M. Renaux was absent. The new assistant gave Dourche a friendly welcome, and allowed him to ferret about in the shop, but soon after the visitor had left a sum of 500f. (20*l.*) was missing from the cash-drawer.—M. Fabaron, pharmacist, of 36 Rue Saint-Roch, Paris, has also had a rather unpleasant experience. There was an unexplained shrinkage in his daily takings that worried him for some time, and at last his suspicions were aroused as to the honesty of his assistant, Eugène Trousset, and his porter, François Ribes. M. Fabaron set a trap, and got several friends to buy articles from the pharmacy that had been privately marked, and to pay with marked money. The scheme succeeded, as the goods were missing from the stock on the shelves, and some of the marked money was found in the pockets of the assistant and his confederate the porter. The pharmacist gave them the opportunity of making their excuses and apologies at the police-station, and intends to prosecute both men.

DOCTORS' RESPONSIBILITY.—An unusual question of medical responsibility has been decided by the Civil Tribunal of the Seine. The defendant (Dr. Jacquier) was carrying out a dental operation on a female patient at the Quinze Vingts Hospital, Paris, when he noticed that the cocaine-hydrochloride solution he was using was nearly exhausted. He sent an assistant to procure a supply from the hospital pharmacy, and a bottle labelled as cocaine hydrochloride was brought back, which the doctor used. Some days later the patient's mouth became inflamed, and the physician who attended her expressed the opinion that it was probably caused by corrosive sublimate. An inquiry showed that the cocaine bottle used by Dr. Jacquier really contained corrosive sublimate. The patient claimed 10,000f. (400*l.*) damages, and three physicians were charged by the Court as experts to report on the case. As a result the responsibility of Dr. Jacquier was admitted in principle, and he was ordered to make a provisional payment of 400f. (16*l.*), the plaintiff having the right to plead for a higher sum if the injury to her mouth increased. The question has naturally arisen as to how far the responsibility for the accident is divided with the pharmacists of the hospital who have charge of the medicine-cupboards.

Provincial Pharmacy.

(*An Experience at Nantes.*)

IT is cattle-show week here. Horse-show and dog-show week, too, I might say. If there are any English pharmacists who object to the "grocer-like" window-dressing that prevails sometimes at home and sigh for the sweet simplicity of a French pharmacy-display, and think "they manage these things better in France," I should like to take them down the principal streets in Nantes. I do not know where I have seen in France so much window-show and show-card work. There are many pharmacies where fronts and windows are just one mass of show-cards and samples, not necessarily of medicaments strictly so-called, but of mineral waters, bandages, "irrigateurs," and that style of thing. Not that they have it all to themselves. There are several shops which boldly proclaim that their speciality is "Accessories de Pharmacie." In one case, at least, it was directly opposite a pharmacy that I saw a shop of this kind, making a brave show of the most intimate apparatus for all the ills male and female flesh is heir to. Even the "Galeries Nouvelles," those big "bazaars" which are now being built in every French town (under Jewish auspices, I believe), make a special line of "Coton Hydrophile" on the street-front within hand's reach of the passers-by; and I saw the pain-relieving wild-cat skins offered at a saddler's. The fact is that Nantes not only shares the honours of seaport prestige with its smaller sister town of St. Nazaire, at the mouth of the River Loire, but it is also the borderland and shopping-place of the hinterland of Britanny, just as Toulouse and Bayonne appeal to the hinterland of the Pyrenees and Spain, and in such places druggery, bandages, utensils and accessories, are likely to be largely pushed forward to attract the casual peasant passer-by, that he may provide himself ere he returns to his native wilds.

Among the host of show-cards I noticed one masterpiece of a Swiss Vaccine Institute—

"VACCIN ANIMAL KUHLYMPHE COW-POX."

That truly is "English as she is spoke" The pharmacies are of every class. They seem to be terribly near each other, but Nantes, like Lyons, is "built high" on the small sky-scraper plan, and one can get a wonderful lot of people in six-storey blocks with narrow streets. Besides, much is evidently done with the peasants from around. The Rue d'Orléans seems to be the most "cutting" street, as well as the most central. Some of the pharmacies there are more like grocers than any other I ever saw in France—windows packed full of bottles, packages, &c., open door, shelves round shop full of specialities. It was not, however, in this street that I saw an assistant behind the counter in the straw hat and blue apron of the French gardener, or man of all-work, it was in another thoroughfare in one of the many pharmacies which advertise themselves as the cheapest in Nantes. Some of the pharmacies offer their buyers the *timbre de commerce*, or *timbre de rabais*, a system which ensures the discount being spent in the same shop where the purchase is made.

Up by the dog-show I saw Spratts' posters, and an enterprising French firm that sells a skin remedy for dogs, horses, and cattle had posters all over the place, whereon a Gallic huntsman—it is called the "Remède du Grand Veneur"—with his indispensable horn wound around his manly form, points out its merits to another jockey-capped and top-booted individual.

I have often seen photo sundries put forward at French pharmacists'; but this is the first place where I ever saw

PHARMACIEN DE 1er CLASSE, PHOTOGRAPHIE, CHIMIE,
HOMŒOPATHIE,

written in letters of equal dimensions right above the shop-front. This was at M. Tassains, who keeps kodaks, solio-paper, &c. I leave here to-night. It was on this condition only that I had my room, for Monsieur le Ministre is due to-morrow at the Concours. Shall I tell you of my *table d'hôte* mates, ruddy and bronzed of aspect, who wash down their hearty meals with draughts of the "eau gazeuse filtration Pasteur," generously provided gratis at the *table d'hôte*, and are capable of discussing the relative merits of various cattle-drenches and horse-balls with a steady stomach? My memory drifts back to a certain little English country pharmacy, where in the backyard, well out of reach of the olfactory nerves of the household, might be seen a pallid youth with a silk handkerchief over his mouth and nostrils, mixing the foul-smelling ingredients of the said horse-balls in an iron mortar with an all too weighty pestle. His father stands by and says, "Nice gentlemanly trade, chemist's: no wonder people want to put their boys to it." I draw the veil. It is cattle-show week at Nantes, and I trow that no one is better aware of the fact than pharmacy-apprentices who help to make the cattle-medicines.

Colonial and Foreign News.

Chemical-works Closure.—The North German United chemical-factories of Glückstadt, a branch of the Cassel Trebertrocknung Company, has closed down owing to the failure of that company.

Seeking Fresh Fields.—The following advertisement appeared recently in a German paper:—"A medical man, weary of his calling, excellent musician, pianist, tenor singer, and humorist, desires an engagement in a quartette or opera company."

No Compromise.—The dispute between the Berlin apothekers and the sick clubs is not yet settled. A meeting of apothekers, doctors, and the committees of the sick clubs held in Berlin on July 15 failed to lead to the acceptance of any definite plan of reconciliation.

Bulgarian Sanitary Law.—At a special sitting of the Bulgarian Chamber recently a change in the present sanitary law was decided upon. In future pharmacies may not be sold, let, or inherited, the only exception being when upon the death of the father owning a pharmacy his son is already studying the profession.

Dilute Acetic Acid not a Poison.—The Austrian Minister of the Interior issued an order on June 19 that the free sale of fluids containing acetic acid was not prohibited so long as they contained not more than 20 per cent. pure acetic acid. Higher concentrated solutions come under the regulations for the sale of poisons.

Reduction Wanted.—The German Soapmakers' Union has petitioned the Chancellor of the Empire for a reduction of the duty on maize oil and sunflower oil. The duty at present is 10m. per 100 kilos. The German soap-industry is in a very difficult position on account of the rise in linseed oil, and is quite cut off from the world's market, seeing competitors are able to use crude material, which is exempt from duty.

A Praiseworthy Association.—A new pharmaceutical association has been formed in St. Petersburg under the name of "Northern Pharmaceutical Association." Besides promoting the scientific and general interests of pharmacy. the Association gives assistance to needy members, and helps the families of deceased members, besides aiding those too old to pursue their calling, by finding other employment for them. Assistants are eligible for membership.

German Demand for Monazite Sand.—The American Consul at Aix-la-Chapelle reports that the general manager of the Chemische Fabrik Rhenania, of that city, desires to purchase 200 tons or more per year of monazite sand. At present, this is obtained from Brazil, but the Consul is informed that the sand exists in North Carolina and other parts of the United States, and he suggests that miners should communicate at once with the company named. We may explain that the material is used in making incandescent mantles.

Serums in Italy.—In consequence of the poisonings ascribed to anti-diphtheric serum in Upper Italy, which have caused so much excitement recently, new regulations have been issued enacting that vaccine lymphs, serums, toxic, antitoxic, and allied products must be submitted to examination by the State before being brought into trade, in order that their purity and genuineness may be verified. The costs of the analysis are to be borne by the maker. The supreme Board of Health prescribes the regulations for the analysis. Foreign-made products may be sold in Italy with the consent of the Minister of the Interior, after the sanction of the Board of Health has been obtained, provided they have been manufactured under the control of the country of their origin.

South African News.

(From our Colonial Correspondents.)

Patents in Orange River Colony.—An office for registration of patents in the Orange River Colony was opened at Bloemfontein on July 1.

Personal.—When the last mail left from the Rand Mr. Alderton, partner of Mr. A. S. Smith, Hon. Sec. of the Transvaal Pharmaceutical Association, had just arrived in Johannesburg, and Mr. A. Cohen, of Market Street, had also returned.

Influenza Colds are just now prevalent at Johannesburg, sodii salicyl. and ammon. carb. being found useful in the first stages, and quinine and strychnine in the later. Influenza colds in South Africa, however, are not nearly so severe in their symptoms as those which prevail at home.

Duty on B.P. Preparations.—In the case of a protest by one of the Durban chemists against the imposition of 20 per cent. import-duty on B.P. ointments, the Collector of Customs has ruled that all B.P. ointments and pills are subject to a duty of 20 per cent. This has caused some feeling amongst Natal chemists.

Pharmacy in Rhodesia is now beginning to pick up slowly after the stagnation induced by the war. Messrs. Moore & Co., of Bulawayo, are signalising the improvement by removal from Abercorn Street to splendid premises in Seventh Avenue, where Rhodesia (Limited), have built a palatial block of offices, and Messrs. Moore have taken one of the shops.

Spirit Law on the Rand.—The dealer O. M. Cahn, of Fox Street, Johannesburg, who was fined 20*l.* some time ago for selling quart bottles of Hoffman's Droppels (spt. æther. co.) to natives has been up before the authorities again, and a further fine of 20*l.* has been imposed. In this instance the native "trap" asked for a "pusa" (drink), and Cahn gave him a dose of S.V.M., and charged a shilling for it.

Methylated Spirit in Natal.—A great deal of inconvenience is being caused owing to the want of methylated spirit. There is only one distillery in the colony, and it is totally inadequate to meet the demand. Last year the supply failed for nearly six months, and now there has been none for a month. As the import-duty on S.V.M. is 15*s.* per gallon, and the price of the colonial make is 4*s.* per gallon, it is out of the question to import it.

Licences have been issued authorising the undermentioned persons to practise in the Cape Colony in the capacity of chemists and druggists:—Max Heinrich Sprenkmann, chemist and druggist, Germany, 1897; John Laxson Morrison, chemist and druggist, Great Britain, 1898 (formerly of Bridge of Leslie, Insch, N.B.); and Strafford Smith Hewitt, chemist and druggist, Great Britain, 1899 (formerly of Gilligate, York).

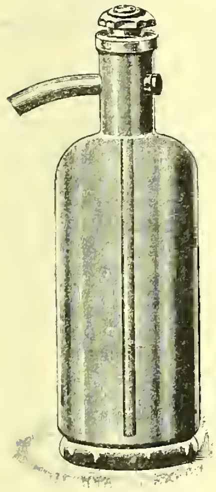
Public Medical Appointments.—Dr. John Gregory, who for many years past has been the assistant medical officer of health, has now been appointed medical officer of health for the colony. Since the outbreak of plague, Dr. Gregory has had almost supreme control of the administration to combat the spread of that scourge.—Dr. J. A. Mitchell, formerly bacteriological expert at Robben Island, and now in charge of the Uitvlught Plague Camp, is gazetted as assistant medical officer of health.

The Pharmaceutical Society of Cape Colony held a smoking-concert in the St. George's Hotel, Cape Town, on the evening of June 27. In the absence of the President (Mr. A. J. Mathew) through indisposition, the Vice-President (Mr. J. S. North) was voted in the chair. There was a large attendance and amongst those present were Messrs. A. H. Mathew, Frank Mathew, Geo. Darroll, W. Fick, A. Cameron, James, R. Sainsbury, and the Secretary. A number of visitors also attended. Items of the programme were Mr. F. W. Kaibel (songs), Dr. Berlyn (recitations), R. Sainsbury (character-sketches), C. W. Brydges (song), De Caston (sleight-of-hand performance), and Messrs. Cope, Roberts, and Waller (songs). The proceedings were brought to a close soon after 11 o'clock with the usual vote of thanks to those who contributed towards the enjoyment of the evening.

Our Town Traveller.

BUSINESS is as good as the state of the thermometer in London will allow. No one is grumbling of lack of work, but many complain of a super-abundance of heat, and the aërated-water manufacturer is as hoity-toity as a surfeit of business entitles a man to be. *A propos* of drinks I have discovered

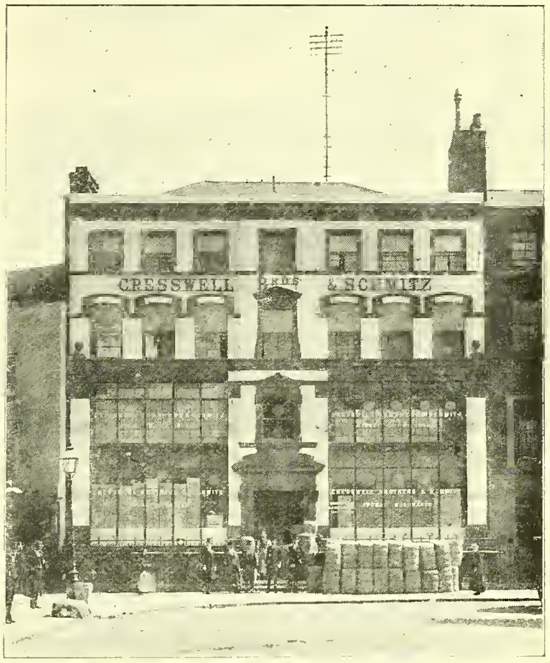
A New Syphon.

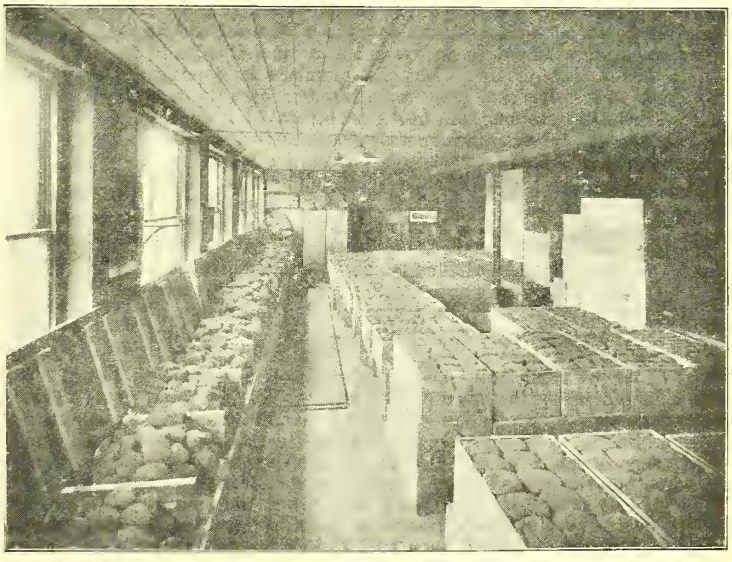


A chat with Mr. Lumley, of L. Lumley & Co. (Limited), at 1 America Square, Minories, E., a few days ago, disclosed the novelty. It was the "Gnom" patent "All-glass" syphon, which Mr. Lumley dissected for my delectation. It possesses several advantages over the common syphon. As will be gathered from the illustration, the whole of the syphon is in one piece of strong glass, and the risks of metallic contamination in the waters is reduced to a minimum, as the only metal portion with which the mineral water comes in contact is the nozzle, and this is made of pure tin. The inner portion of the neck of the syphon is lined with porcelain, and through this the nozzle passes, being affixed by a screw at the back. A glass stopper, to which is fixed a spiral spring, is screwed into the neck from the top, and a downward pressure, which can be easily regulated, releases the water. Indeed, the working parts are so simple that they can be replaced at a cost of about twopence, and by merely unscrewing the nozzle at the back the whole of the syphon can be readily cleaned. The main advantages of this syphon are obvious. There are no intricate metal tops to unscrew and to keep from tarnishing. The working parts are few and so easily detachable that they may be cleaned prior to each filling. The strength of the syphon is not jeopardised by the screwing on of metal parts, consequently there is less strain on the glass. Other advantages which Mr. Lumley claims for the syphon are, that, owing to the small quantity of metal, there is no temptation to pilfer for the value of the tops; and, for export, there is the minimum of metal (always highly rated) on which to pay duty. Lastly, and what is perhaps more important, the "Gnom" is put on the market at a lower price than that usually charged for the ordinary syphon.

Headquarters for Sponge.

"You had better go round and see Cresswell's new sponge warehouse," said the Editor one day last week. Hitherto, when calling on Messrs. Cresswell Brothers & Schmitz, it has been at the fine old mansion, 1 and 2 Red Lion Square, W.C., but additional showrooms have been fitted up at 18 and 19 in the same square. The new showrooms occupy a large building of four floors and basement, each floor being 3,000 square feet, and the basement 3,500 square feet. Each floor of the building is crammed with sponges in cases, whilst the basement is devoted solely to sponge in bales. The bales are compressed, and the thousands the basement contains are piled on top of each other and arranged in aisles. A bale weighs from 50 to 100 lbs., and as some of the bales contain sponge worth 9*s.* per lb. it is easy to see that the stock represents a lot of money. It should be remembered, too, that the four upper floors are filled with cases of the more expensive Mediterranean sponge. *C. & D.* readers know that although sponges all belong to a single genus there are at least four species, twice as many subspecies, and a greater number of varieties. Apart from the natural classification there is the commercial grading according to texture, shape, and solidity, yet a sponge-expert can tell at a glance from what part of the world any given sponge came. More than this, he can tell whether a sponge came from the East or West Mediterranean fishings. It is not generally known that the further east in the Mediterranean sponges are obtained the softer and more velvety is the texture, whilst the greater the influence of the tide (it is never much) in the water in which a sponge is grown the harder the texture. Fine and honeycomb Mediterranean sponges grow side by side, and are obtained by divers. A less expensive method of obtaining sponges is available in Cuba or the West Indies, as the sponges grow in shallower water. The varieties of sponge have all been systematised in the new warehouse, so that a customer can be shown any quality of sponge, in the original case or in bins, in a few



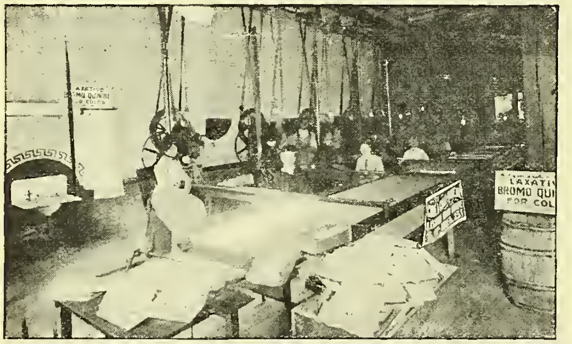


Where Druggists' Sponges are Shown.

minutes. As I returned to Cannon Street by the "tube" I fell to thinking what a remarkable industry sponge-fishing is. Sponge was formerly only used for dilating wounds in surgery, and in the form of burnt sponge for scrofula, but now, as indispensable to the toilet, it is obtained in enormous quantities.

Bromo-quinine Tablets.

The picture herewith illustrates a department in the manufactory of the Paris Medicine Company of St. Louis, Mo., where the laxative bromo quinine tablets of the firm are made and packed. Each of the five machines represented in the engraving compresses, stamps, counts, and delivers into one-dozen boxes about a quarter of a million laxative bromo quinine tablets a day. The box filled, the lady attendant puts in the literature appertaining thereto and sends the box off on another journey. Each box is then carried into a carton holding one dozen boxes, which is folded (also by machinery) and dropped out on the floor. These things illustrate the ingenuity of Mr. F. L. Seely, the Secretary of the company, and also the magnitude of the bromo quinine tablet industry. I had a chat with Mr. Clarke, the firm's representative, at the British depôt, 28 Shoe Lane, E C., and he is well pleased with the sale of the tablets in this country. The success of the firm's products (which include "Pazo" ointment for the cure of piles) has far exceeded his expectations, and that is just about as satisfactory a condition of affairs as any business man can desire.

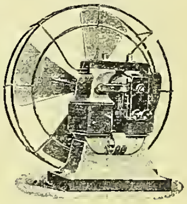


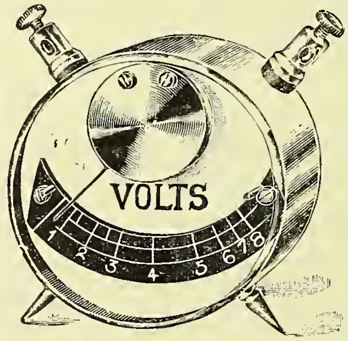
An Old Firm in a New Place.

Amongst manufacturing chemists Messrs. Alfred White & Sons are recognised as one of the oldest firms in London. Since the establishment of the business in 1775 until within a few weeks ago the offices and warehouse were situated in Castle Street, Saffron Hill. But the premises in a neighbourhood which Dickens has made historic became constricted as the volume of business increased and old associations had to give place to business-demands, with the result that the London storehouse for ethers, acids, and bismuth salts, on the excellence of which Messrs. White & Sons have based their reputation, has been transferred to Allen Street, Goswell Road, E.C. The new premises are in every way excellently adopted for the storing purposes for which they are intended, as I noted at a visit of inspection the other day. The works and wharf, covering several acres, are situated at West Drayton, and for the convenience of London druggists and for export the commodious building in Allen Street serves as a storehouse. The premises are well lit by day, and electrically bright by night—no gas being used on the premises, as much of the ether is bottled there from carboys sent from the works. A small laboratory adjoins the main office, a spirit-room, and a small storeroom are constructed on the first floor, while the ether room is by itself on the ground floor. Besides other advantages a large yard is attached, and there amongst a number of export packages I noticed two large cases of nitric acid which are being consigned to a well-known firm of South African chemists for use in the gold-fields.

Optical and Scientific.

An interview with Mr. Darton (F. Darton & Co., St. John Street, Clerkenwell, E.C.) is always refreshing, and his storehouse invariably contains something interesting and novel. His latest "rush," he told me, in the course of a conversation a few days ago, has been in goggles for motorists. These are ungainly, but light and useful, articles, and may well be handled by chemists along with the series of cyclist-goggles. The latter are in great variety, but the nicest, I think, are those made with nickeled rims and a triangular edge of transparent talc which covers the outside corner of each eye and keeps dust, flies, and other objectionable materials out of the organ of vision. Other varieties have gauze edges, but all are very light and flexible and productive of comfort to riders on these hot, dusty days. Mr. Darton is still busy with orders for the War Office. He showed me special telescopes for guns, specially constructed field-glasses, lamp-stands for heliographs, and so forth, which he is supplying for South Africa by the hundreds. The smaller illustration depicts an electric-motor fan, which is now stocked in various sizes. The two smaller sizes, named the "Speedy" and the "Little Zephyr," are very neat and excellently finished, the former selling at 27*s*. per dozen. Another cheap line is a well-finished, clean, and strong bichromate battery to sell at 1*s*. The larger engraving shows a portable voltmeter, which is very popular; and I also inspected an ingenious cell-tester, much after the same pattern, but with the addition of a connecting-band for the zinc and carbon poles. Amongst the "curiosities," I examined a detective's telescope—an ordinary telescope to which has been fixed a mirror. This was specially made for a detective whose duty it was at a popular seaside-resort to watch the passenger's landing from the boats. By arrangement of the mirror the operator can see everyone stepping ashore while apparently looking out to sea. Another curiosity is the spectacles which are being made with light wooden rims for a doctor who is going with the Antarctic expedition. The wood prevents the excoriation of the skin which metal in a cold temperature is apt to produce. The glasses look clumsy, but will effectively serve their purpose.





East Indian News.

French Import-duties.—There is considerable delay in the announcement whether Indian tea, coffee, and pepper, &c., imported into France, will be subject to the minimum tariff or not. It is stated that the French authorities desire a *quid pro quo* in the shape of permission to obtain Indian coolies for Madagascar.

Locusts and Indigo.—A correspondent of the *Times of India* reports that dense flights of locusts have been seen in Behar. They have visited the indigo-factories and done considerable damage to the plants. It is estimated that altogether the flight must have covered quite 140 square miles, and the roads, trees, and indigo-shrubs, and even the houses, were covered with myriads of them, so much so that the country looked as if it had been thickly spread with red chillies. This report as to the damage to the indigo-crop is confirmed by Messrs. J. Thomas & Co, Calcutta, but with favourable weather it will to some extent recover. Rain is wanted everywhere, but chiefly in the Chuprah district. Factories using tank-water are suffering, and good rain is required to help manufacture. In Lower Bengal prospects are decidedly worse and produce is not good. In the North-West Provinces the want of rain is becoming serious.

Summer Supplements

TO "THE CHEMIST AND DRUGGIST."

CONTRIBUTED BY BUSINESS FIRMS.

A Concise Summary of What they are about.

ONCE more we convey to the 12,000 business-men in the drug-trade who will receive this number a series of artistic and specially-prepared catalogues, circulars, handbills and price-lists, emanating from leading manufacturers and wholesale dealers. We cordially invite the co-operation of all our friends to make the enterprise of these advertisers, indeed of all *C. & D.* advertisers, a success. They can do that by giving orders for things they need, or novelties which will find ready customers.

We receive such insets for insertion in THE CHEMIST AND DRUGGIST twice a year only, and there will be no other opportunity until January 25, 1902. The Publisher is always pleased to give inquirers full information about insets, and whatever advice he can in regard to their production. As many firms never miss an opportunity of having something of this kind in our Summer and Winter Numbers, this method of advertising is a proved success.

In the paragraphs which follow we describe succinctly the contents of each inset, and the folios attached to the paragraphs represent the pages of the ordinary advertisement-sheets between which the particular insets will be found.

Allen & Hanburys (Limited), Bethnal Green, London, E., send to our foreign and colonial readers their wholesale price-list, on the front cover of which is represented the well-known picture of the alchemist, above which is the "plough" trade-mark, while on the back cover is printed in colours a picture of Old Plough Court, London, prior to 1854. The cover generally is a work of art. The price-list, which runs to twenty-four pages on glazed paper, contains illustrations and prices of all the well-known products of the firm, amongst which are malt and oil extracts, chemical foods, cod-liver oil, emulsions of various kinds, effervescent saline preparations, coca-wine and meat-and-malt wine, compound syrup of hypophosphites, phosphorised quinine-and-iron tonic, toilet and medical soaps, and specialities. The various lines of compressed drugs of which the firm are manufacturers have a place together with lozenges, jujubes, and pastilles, which are also plentifully illustrated. The list is a very effective and artistic production from beginning to end. (Inserted loose.)

Baiss Brothers & Stevenson (Limited), Jewry Street, London, E.C., have an attractive four-page inset on art paper, artistically printed and illustrated with pictures of some of their more prominent pharmaceutical specialities. The firm are manufacturing chemists, wholesale druggists, and distillers of essential oils, and makers of general pharmaceutical chemicals, also contractors to the British and other governments, and to the principal London and provincial hospitals. "Pinesyl" is the trade-mark of a new disinfectant referred to elsewhere in this issue, as is also the "Othniel" brand of cascara perles. Sandalwood-oil capsules, made from guaranteed English sandalwood-oil, thirty capsules to the box, and "Othniel" brand Santal perles in white flint-glass bottles, are also illustrated with prices. (Pp. 32–33).

Barker's Photo Works, Windermere, on their four-page inset give a price-list for developing, printing, and enlarging from customers' own films, plates, and negatives. The prices are reasonable. The front page of the inset is remarkable as a displayed advertisement, and Messrs. Barker make a point that the photographic side-line as worked by them yields the chemist 75 per cent. profit. The firm make a speciality of enlarging, finishing, and duplicating of showcards for chemists. They recommend "Silvo" portable developer and "Sepia" toning-bath as being excellent lines for chemists. (Pp 32–33.)

Brunner, Mond & Co. (Limited), Northwich, Cheshire, again present their "Crescent" brand of mineral-water bicarbonate by means of a pink circular in this issue. This particular kind of bicarbonate is specially made for the production of carbonic-acid gas for aërated-waters, and mineral-water manufacturers are strongly urged, before committing themselves to the use of whiting, to try a 2-cwt. bag of this product, the advantages of which are set forth, together with full instructions for its use (Pp. 64–65.)

P. B. Burgoyne & Co., 5 Dowgate Hill, London, draw attention to their well-known brands of Australian wines by means of an attractive leaflet, on which is represented a bunch of grapes printed in blue on a delicate tint of yellow. "Australia's Best" (men and wine in this case), is the motto, and the circular is attractive and contains concise particulars of each brand of wine which the firm put on the market. (Pp. 64–65.)

James Burrough (Limited), Cale Street Distillery, Chelsea, S.W., offer finest B.P. 1898 S.V.R. and S.V.M., and finish, for retailers' or manufacturers' uses, the latter with or without mineral naphtha. Burrongh's celebrated wines, in which are included orange wine, B.P., 1898, free from salicylic acid, and "Red Cross" coca wine are also specially mentioned. (Pp. 166–167.).

Camwal (Limited), 112, Pembroke Street, London, N., and at Birmingham, Manchester, Bristol, and Harrogate, illustrate in characteristic fashion mineral waters with which every chemist is well acquainted. In their four-page circular they give some very good advice to chemists on the pushing of the syphon-trade, and intimate that Camwal's equivalent for a soda-water fountain for producing iced drinks is within the reach of all chemists, whom they ask to order at once and satisfy themselves on the subject. They also intimate that particulars of two new beverages of unique character which they will shortly be in a position to supply may be obtained from them now. (Pp. 64–65.)

Thomas Christy & Co., 4, 10, and 12 Old Swan Lane, London, E.C., present a four-page inset, giving prices and particulars of Adeps Lanæ, B.P. (Christy), cachets and koseals with apparatus for same, "Christia" substitute for oiled silk, filled collapsible tubes supplied to any formula, "Glasscine" transparent labels, insect-powder, menthol cones, fly-papers, and boot-cream in collapsible tubes. They also illustrate a very useful tube-filling machine for chemists' use, the capacity of which is about two quarts. "Quassine," which is also referred to, is a concentrated extract of quassia put up in collapsible tubes for use in syringing plants and shrubs. The inset is well printed on toned paper in two colours. (Pp. 134–135.)

G. & T. Coward, chromo-lithographers and colour-printers on tin, Carlisle, have very effective illustrations of their art on a leaflet sent out with this number. They make all kinds of tin boxes and canisters, and undertake the manufacture of metal advertising tablets and shelf strips, plain and decorative. The leaflet, which is printed on highly glazed paper, is prettily coloured and highly artistic. (Pp. 32–33.)

Arthur H. Cox & Co., Brighton, the original makers of tasteless pills, insert with this number a two-page leaflet with a finely coloured representation of pixies playing at bowls with Cox's pills. The firm ask chemists to send to them for price-lists of their pearl and gelatine coated pills, and intimate that they will send these post free with samples. (Pp. 134–135.)

Daisy (Limited), Mammoth Works, Leeds, open their four-page inset with the statement, "10*l.* earned in ten minutes." This means that the firm are offering a 10*l.* note as a prize for the best letter stating what the writer thinks is the cause of Daisy's success. To make sure that the competition is strictly among the firm's customers, they ask that in each letter an order for three dozen 13½*d.* Daisy should be enclosed. All letters must reach the firm on or before the morning of August 16, and Daisy (Limited) will duly advertise the result in THE CHEMIST AND DRUGGIST of August 30. The firm illustrate their works, paper-warehouse, printing-works, packing-room, display-room, and offices at Leeds, and the whole makes a very effective circular. (Pp. 166–167.)

The Domen Belts Company, 456 Strand, London, W.C., present with this issue their illustrated price-list of the belts, binders, elastic bandages and surgical accessories which they make. A supply of these small books with chemist's name for distribution will be sent free on application. The Domen Company are well known in the medical profession and to hospital surgeons, and as their goods show a profit of 33⅓ per cent. on returns, buyers will do well to apply for their wholesale price-list. (Pp. 32–33.)

The French Flint Glass Bottle Company (G. V. De Luca & Co.), 6 and 7 Long Lane, Aldersgate Street, E.C., on a pale-green coloured circular, with this issue, display their white glass pots with plain or screw necks. The glass from which these pots are made is white and brilliant. They are regular in make, of uniform height and size, and flakes of glass inside are absent. All kinds of screw-bottles, and jars, in white or amber glass, lemon-squash bottles, tie-over jars, jelly-pots, salad-cream bottles, &c., are supplied by the Company. A speciality is the patent screw "Exal" bottle, made in white, blue, or green glass, closing with a cork-stopper, the cork taking the impression of the screw made on the inside of the neck of the pot, so that the stopper cannot drop out, and the contents are always kept in good condition. (Pp. 166–167).

Darton Gibbs Company, Pazo Works, Oldbury, Birmingham, manufacturers of standard and general aseptic and antiseptic surgical dressings, submit with this issue a circular to our subscribers abroad, to which is affixed a catalogue of 46 pages dealing with the prices and particulars of their antiseptic gauzes, dressings, lints, wools, and bandages. They also illustrate plaster-of-Paris bandages, catgut ligatures, first-aid dressings and gauzes, antiseptic sponges, lints, tows, &c. Fumigating-candles are also a speciality of the firm, plasters, vaccination-tubes, and tampoons. The "Pazo" hygienic towels and suspenders, and aromatic borated dusting-powder are other products, and the "Pazo" compressor-machine in nickel plate and bronze for tablet-making at the counter is shown. The treatment of milk for infants and the description of a simple apparatus for the destruction of pathogenic germs is dealt with in a special chapter. The apparatus is supplied by Darton Gibbs Company. (Foreign and Colonial copies only.) (Pp. 134–135.)

D. & W. Gibbs (Limited), of the City Soap-works, London pictorially illustrate their original cold-cream soap by a reproduction in colours of a handsome girl looking into her mirror, after, it is assumed, using the famous toilet-article. The picture is from an oil-painting by E. Roberts, and is very effective. Besides this preparation the firm put up Bentley's musk-brown Windsor soap as supplied to her late Majesty Queen Victoria, also Sharp's white-rose and cucumber soap, and numerous shaving-soaps. Special attention is given by the firm to the manufacture of customers' own specialities. (Pp. 32–33).

The Institut Bacterio-Therapique et Vaccinal Suisse, Berne, Switzerland, insert in the foreign and colonial copies of this number a circular respecting vaccines and therapeutic sera as supplied to the leading hospitals and physicians. These preparations are guaranteed of the highest purity and absolutely sterile, being made under Government control. They also make vaccines for prophylactic use, diagnostic veterinary vaccines, and medicated solutions. Prices and terms may be obtained on application, as well as special literature and samples. (Foreign and Colonial copies only.) (Pp. 134–135.)

Johann Maria Farina, Julichs Platz No. 4, Cologne-on-Rhine, on their two-page circular set out the prices for their original eau-de-Cologne in different sized bottles, flasks, decanters, half-pints, pints, and quarts. Quotations are given duty paid in London and also in bond at Harwich. The firm show the prize medals or diplomas received by them at the various international exhibitions. The sole agents for this country are Messrs. Fickus, Courtenay & Co., St. Dunstan's Buildings, Great Tower Street, London, E.C. (Pp. 32–33.)

Blanche Leigh, 123 Oxford Street, London, W., and Paris, have an 12-page inset with attractive red cover, in the shape of a trade price-list for toilet, fancy, and household soaps. The firm intimate that parcels are delivered free in London, and for orders of 5*l.* or upwards their delivery is assured to any part of the United Kingdom. One grand prix, nine gold medals, one silver medal and diploma of honour have been awarded for the manufactures of this firm at various international exhibitions since the year 1839. (Pp. 32–33)

Lorimer & Co. (Limited), wholesale and export druggists, Britannia Row, Islington, London, N., and 254 George Street, Sydney, "the pioneers of chemists' own-name specialities," send out a handsomely illustrated price-list of 52 pages. On the front cover are portraits of Mr. John Lorimer and Mr. Horace Brocklesby, managing directors of the firm. The illustrated specialities in the list run into the hundreds, and as they are all printed in a good tone of blue on fine glazed paper the value of the catalogue as a reference trade-guide is very great, especially so as the list is prefixed by a full index. The list is notable as covering the chemist's requirements in all kinds of counter specialities—chemical and dietetic, medicinal and hygienic, perfumery and toilet. The firm's experience in this line of business is exceptional, as are also their facilities for full and quick supply. (Inserted loose.)

Lynch & Co (Limited), Aldersgate Street, London, E.C., send out with this issue a supplement to their catalogue of druggists' sundries and surgical instruments and appliances. The catalogue is exceedingly well illustrated and the prices are revised with additions up to current month. All kinds of druggists' sundries, jars, bottles, and pots, measures and feeding-bottles, "Lynchgate" soothers, chest-protectors, and toilet requisites are shown. There is also a section devoted to toothbrushes, combs, toilet-jars, and tooth-powders. Rubber goods, enemas, pills, air-cushions, atomizers, douches, and water-bottles, are also fully set forth, and there is shown a set of serum syringes, surgical instruments, nurses' bags, clinical thermometers, and many other necessaries of the surgeon's art. Lynch's table cutlery and hollow-ground razors, and the Aymard sterilising apparatus are also figured. (Inserted loose)

McKesson & Robbins, of New York, insert this summer a prettily designed eight-page formulary and price-list on art paper, of "Ovoid" capsuled pills and the other specialities of the firm. The "McK. & R." compound stearates are remarkable for their lightness and exquisite softness; photomicrographs illustrating the impalpable character of compound stearate of zinc are shown. Tartarlithine is described, also guaiaquin and vapocaine—respectively a combination of quinine and guaiacol and a solution of cocaine hydrochloride in an ethereal menstruum. Sangrenals—a perfected preparation of the renal glands of the sheep in powder, lozenge and tablet, and pyrozone solutions are also particularised. The firm's semi-fluid preparation emoleo is recommended for use in affections of the nose and naso-pharynx. The London agents of the firm are S. Maw, Son & Sons, 7 to 12 Aldersgate Street, E.C. (Pp. 134–135)

Marshalls (Limited), 27 Red Lion Square, London, W.C., manufacturers of toilet-preparations and perfumes, again send out to the trade with this issue a very fully illustrated price-list of their specialities, occupying twenty-eight pages. They are the proprietors of Marshall's "Reel" fly-catcher, fly-papers, "Tube" and "Wheel" fly-catchers, Hill's cajuput jelly, Parker's essence of ginger, and Marshall's moth-destroyer, and sea bath salt. They also manufacture sal prunella in cubes and balls, flavouring-essences, menthols, powder-puffs, scent-sachets, cachous and various pharmaceutical preparations, collapsible tubes of the best quality, tooth-paste, violet-powder, and toilet-preparations of all sorts and descriptions, disinfectant-tablets, moth-destroyers, hair-preparations and dyes, and the "Pet" baby-soothers all of which are embodied in this very comprehensive list. The firm are also makers of the "Sterling" tablet-machine, for which the price is quoted with sizes, sets of dies and plungers. (Inserted loose.)

S. Maw, Son & Sons, of Aldersgate Street, London, E.C., supply our subscribers with an invaluable historical record of the foundation and progress of the druggists'-sundries business in a splendidly illustrated and graphically written history of their own case, which was started in the first decade of last century by Mr. George Maw—"Maw's" and "Druggists' sundries" being contemporaneous in origin. The founder's sons, John Hornby Maw and Solomon Maw, in succession entered the business, which in 1835 became Mr. Solomon Maw's own care. Then he took his son Charles into partnership, and to-day Mr. Charles Maw, as a veteran, has associated with him in the business three of his sons, Mr. C. Trentham Maw, Dr. Henry T. Maw, and Mr. M. T. Maw, so that the trading-title "S. Maw, Son & Sons" covers three generations of the four over which the history of the firm extends—thus belying the too prevalent notion that London families survive for three generations only. These sentences are a mere glance over the surface of the biographical part of the monograph, which then proceeds to describe "A Visit to Maw's," contributed by a pharmacist unconnected with the firm. There must be many hundreds of the firm's customers in all parts of the globe who have envied Londoners the privilege their location gives them of visiting Messrs. Maw's establishment, and here in the inset is an exceedingly faithful reflex in description and illustration which brings the establishment to the very desks of our subscribers at home and abroad. The notes of the visit deal especially with the manufacture of surgical instruments and the workshops where they are made; the sundries room at 11 Aldersgate Street, E.C., the design and manufacture of shop-fittings, and in succession the fancy department, the optical department, and the feeding-bottle department are described. Mr. John Thompson, who for thirty years was associated with Mr. Charles Maw as a partner, supplies some interesting reminiscences, on feeders, a subject in which he has exceptional personal as well as business experience. Next the court and corn plaster department is described, as well as the sponge-room, the box-department, glass-department, the export-department, and the offices. Seldom have we had entrusted to us for distribution an inset so remarkably interesting and so eloquent of commercial success and continued enterprise. There will be no difficulty in finding this inset, as it is inserted loose, and is entitled "Maw's." Some of the firm's leading specialities are referred to on the spare pages.

Newball & Mason, wholesale chemists and botanic druggists, Nottingham, on the first page of their circular show a picture of their works at Hyson Green, and note the fact that they hold thirty-two gold exhibition medals. On the inside pages are a list of Mason's extracts and essences, and a representation of one of the large vacuum pans with which they prepare the extracts *in vacuo*, and so preserve the aroma and flavour to the fullest extent. On the back page of the circular the Boer leader, De Wet, is punningly contrasted with a bottle of Mason's extract of herbs. (Pp. 64–65)

The Paris Medicine Company, of 28 Shoe Lane, London, and St. Louis, Mo., U.S.A., are placing before the trade in a four-page circular in this issue their laxative bromo quinine tablets, which they guarantee will "cure a cold in one day." The sales in the United States and Canada of this proprietary for a number of years have been upwards of five million boxes, and the firm asks chemists to sell every box on a positive guarantee to cure influenza and colds, and they will reimburse the retailer in every case where he has to refund the money. The "Pazo" ointment, a cure for piles, is another of the firm's preparations which they are pushing in this country. The circular is illustrated by an effective picture of the laboratory at St. Louis, Mo., and the arrangement and letterpress are in attractive style. (Pp. 134–135)

A. & F. Pears (Limited), 71–75 New Oxford Street, London, W.C., again insert their well-known and characteristic four-page circular. On this occasion, however, the outside cover has changed its colour, and the large picture of the Paris Exhibition Grand Prix medal and the name of the Company are printed in gold. They have now obtained, twenty-one highest awards at International exhibitions in various parts of the world. In the terms set forth on the circular they offer a discount of 20 per cent. on all orders of not less than 5*l.* if accompanied by remittance, and they intimate that no dealer in the Kingdom for any quantity whatever obtains more than 20 per cent. discount. Full price-list and particulars may be obtained on application. (Pp. 32–33.)

J. F. Pease & Co. (Limited), Skerne Works, Darlington, insert a four-page illustrated circular dealing with their stamped steel barrels, which they claim are the cheapest safest, and best for carrying and storing mineral-waters, oils, beers, or other liquors, as they occupy less space, are stronger and more durable than wood barrels, and save cooperage and loss by evaporation or consumption. Their construction, weight, and advantages generally are set out on the interior two pages of the circular, and the price-list and plentiful illustrations complete the inset. The export agents of the firm are the Sir Hiram Maxim, Electrical and Engineering Company (Limited), 65, 66, and 67 Gracechurch Street, E.C. (Pp. 166–167.)

John Richardson & Co, Leicester (Limited), of 10 Friar Lane, Leicester, insert a four-page circular, with a pretty and artistically coloured design on the front cover, while on the back is a very fine half-tone representation of their premises in Friar Lane. The two inner pages are devoted to a list of the varied pharmaceutical and general preparations for which the firm is noted (coated pills they produce by the billion), and representations are given of the various sizes of Richardson's hand or machine-made capsules, as well as of compressed tablets, which may be had plain or coated. Samples are offered free. (Pp. 134–135.)

M. Sello, 12A, Finsbury Square, London, E.C., has a two-page circular distributed to our readers throughout the United Kingdom, setting out the advantages of the "Ideal" bandage for treatment of varicose veins, &c. The bandage is supplied linted and plain. To show its substance, M. Sello has attached a sample to the inset, so that chemists may test it for themselves. The bandage is made of pure cotton, and allows of stretching up to 50 per cent. of its length. No chemical ingredients are used in its manufacture. Samples and terms will be sent on application. (Pp. 134–135.)

Sinaro Natural Table-water, 29 Ely Place, London, E.C., is a new water bottled direct from the springs of Nastaetten, near Wiesbaden, Germany. It is the object of the owners of the Sinaro springs to bring before the public naturally aërated waters. Sinaro water is not a medicinal water, but is absolutely pure, wholesome, refreshing, and highly effervescent. It is also claimed that it is most successful in case of gout and rheumatism, and complaints of the kidney, &c., on account of its antacid properties. Particulars are given on the leaflet inserted with this issue. (Pp. 64–65.)

Spottiswoode & Co. (Limited), 5 New Street Square, E.C., have an artistically drawn and printed inset, showing the effects which they can get in letterpress and design for those who require high-class printing. They intimate that they make it a study to supply that class of printing which it pays advertisers to issue. (Pp. 32–33.)

Stevenson & Howell (Limited), 95A Southwark Street, London, S.E., insert a beautifully coloured leaflet in this issue, representing a camel in the desert; the Arab rider is drinking a bottle of ginger-beer prepared from Stevenson & Howell's soluble essence. The firm claim that their soluble essence of stone ginger-beer and essence of lemon are in use all the world over, and that preparations made from them will keep good in any climate, if carefully made, for practically any length of time. A second leaflet of Messrs. Stevenson & Howell draws attention to their perfect soluble essence of lemon, which they illustrate by a representation of the lemon fruit and blossom and leaves growing on the stalk. On this leaflet also are mentioned the firm's Imperial ginger-ale extract and fluid fruits of different kinds. Prices are given and full particulars. (Pp. 64–65.)

Tyler & England Brothers, 79 Copenhagen Street, King's Cross, London, N., set out different patterns of hand-cameras ranging in prices from 8*s.* 6*d.* to 3*l.* 10*s.* They also show the "Kay Cee," "Tourist," and "Teb" for tripod use, and illustrate a few of their leading lines in amateur and professional mounts for photographs. The "Teb" photo Christmas-card competition, of which notice is given on the back page of the circular, is open to all and for all sizes of plates, from "little Nipper" and "Brownie" to the half-plate camera size. The firm are offering the sum of 317*l.* 6*s.* in prizes in this competition for the best photographs sent in to them mounted on cards of their own manufacture, and known as the "Teb" series. (Pp. 32–33.)

W. R. Warner & Co., of Philadelphia, U.S.A., insert an abridged price-list of soluble-coated pills and granules, compressed tablets, effervescent salts, and pharmaceutical preparations extending to sixteen pages. The agents on this side are Francis Newbery & Sons, Charterhouse Square, London, E.C. A full representation of the Warner building in Philadelphia is given on the front cover, while a similar representation of F. Newbery & Sons' premises is given on the back page. On page 2 a photograph of the late Mr. William R. Warner in his office is shown, to which is appended a slight biographical sketch of this well-known pharmacist. Following on is appended a list, with prices and plentifully illustrated, of the various soluble-coated pills put up by Messrs. Warner & Co, as well as the lentiforms, tablets, effervescent, and mineral-water tablets, for which the firm are noted. The oval "Pedestal" vases with opal-glass labels are also shown, and ingluvin, cascara elixir, parvules, and pil. sumbul are also mentioned. (Inserted loose.)

Wellington & Ward, Elstree, Herts, insert a circular dealing with the Wellington films, which may be obtained in varying sizes or cut to order. The firm have a system of coupalls which is worth the attention of chemists who take up photography as a side-line. These coupalls entitle the purchaser to one film or plate, developed or printed, and one unmounted print on either P.O.P. or bromide-paper. Prices are quoted, and it is notified that off these prices dealers obtain the usual trade-discount of 33⅓ per cent. (Pp. 32–33.)

Wright, Layman & Umney (Limited), wholesale druggists and manufacturing chemists, of 48 and 50 Southwark Street, London, S.E, insert their illustrated price-list of packed pharmaceuticals for retail sale by chemists with or without buyers' names and addresses. The items are far too numerous to attempt to mention in this paragraph. The list is so freely illustrated and so attractively printed in art green on glazed paper that it must attract attention at once. The two pages dealing with the labels for tooth-paste and powders, which are beautifully printed in colours and gold, are specially worthy of notice. Full particulars are given as to prices, terms, printing of chemists' own labels, showcards and handbills, specimens of which will be sent free on application. The half-tone prints and three-colour process adopted in the printing of the inset reflect great credit on Messrs. G. Berridge & Co., the printers. (Inserted loose.)

Outings.

B., W. & Co.'s Fete.

Prelude.

The summer sun, whose melting gaze
Made Darenth look more fresh and cool,
We dodged with ease by sheltered ways
And bosky dells with fragrance full.
Thus rambling gladly through the glades,
With tabloid men and maidens fair,
We found content that never fades,
And gracious double Wellcome there.

The annual *fête* of the employés of Messrs. Burroughs Wellcome & Co. was held in the Wellcome Club and Institute on July 20. The following general programme gives an idea of how the day was filled:—

10.20 A.M.	—Special train leaves Cannon Street (S.E.R.).	
10.50 „	—Special train arrives at Dartford.	
11.0 „	—Athletic sports (high jump and putting the shot).	Sports ground.
11.30 „	—Aquatic sports	
12.45 P.M.	—Luncheon in luncheon marquee.	
2.30 „	—Maypole dance.	Sports ground.
3.0 „	—Athletic sports.	Sports ground.
4.0 „	—Afternoon tea.	
5.45 „	—Dinner in dinner marquee.	
6.0 „	—*Al fresco* concert.	The lawn.
7.0 „	—Gymnastic display.	Sports ground.
8.0 „	—Distribution of prizes by Mrs. Wellcome.	Sports ground.
8.15 „	—Dancing.	Sports ground.
8.15 „	—*Al fresco* concert.	The lawn.
9.15 „	—Dancing.	The lawn.
9.35 „	—Special train leaves Dartford.	
10.10 „	—Special train arrives at Cannon Street (S.E.R.).	

In addition to the above, a portion of Mr. Wellcome's Egyptian and Soudanese collection was on view, and a photographic exhibition, arranged by the Wellcome Photographic Club, was open throughout the day. The weather was perfect, if somewhat hot, whilst after tea a pleasant breeze made the harmony complete. More than twelve hundred people sat down to luncheon in a huge tent, Mr. and Mrs. H. S. Wellcome occupying the centre of the chief table. There were a few commendably short speeches afterwards. Mr. Passmore Edwards spoke of the Wellcome Institute as a technical institute inside a manufactory, and of the benefit of importing science into industry. He congratulated Mr. Wellcome on his recent marriage. Mr. Wellcome, in a delightful speech, thanked everyone present for their good wishes to himself and his partner for life, and in proposing the toast of "The Employés," said there had never been a year in which so much heart and head had been put into the business. The record of progress had always been rapid, but in the past year it had been more rapid than any previous one. The firm had now more than a thousand employés on the permanent roll. The work of last year had been a tremendous strain on all departments, but everyone had responded loyally. Mr. Sudlow, in reply, said they did not fully realise the value of the club and institute, but were beginning to more fully understand and appreciate the splendid gift. He called for cheers for Mrs. Wellcome, the last elected member of the club, which were given with great heartiness.

Finale.

The sickle moon pale radiance shed
On pleasure-sated revellers,
The joy increased, the moments sped,
But darkness found no cavillers.
Some in the ballroom, verdant floored,
Danced gaily 'neath the fairy light,
Or dreamed; while strains harmonious soared
Into the dim reluctant night.

In Epping Forest.

The universal opinion of the sixty or seventy ladies and gentlemen who foregathered at the Royal Forest Hotel, Chingford, on July 18, was that the P.A.T.A. idea of holding an annual meeting was worthy of more general acceptance. The weather was delightful, and the surroundings conducive to contentment and the amicable solution of all problems—the cutting of proprietaries included. The C.D.A. annual meeting began at 11 o'clock with about thirty present, and the Chairman (Mr. Albert Cooper) reviewed the good work the Association had done, and claimed that its formation had already been amply justified by results. He dwelt particularly on the success of the Association in the defence of cases under the Sale of Food and Drugs Acts, and paid a well deserved tribute to Mr. F. W. Beck, the Association's solicitor, for the keen personal interest, apart from his professional duties, which he took in the Association. After referring to the large number of bogus claims against members of the Association with which the Association has satisfactorily dealt, Mr. Cooper turned to the financial statement, explaining that the 90*l.* deficit was due to the fact that the whole of the initial expenses (100*l.*) for the formation of the Association had been charged to the first year's working.

Mr. Cooper's review was received with sympathetic assent, congratulations being accorded by Messrs. C. J. Knight, Gaubert, Hick, and others. Mr. Pentney inquired whether chemists who were also dentists would be defended by the C.D.A. when threatened by the General Medical Council with such charges of "infamous conduct" as advertising. It was pointed out to Mr. Pentney that defending dentists did not come within the scope of the Association's rules. He thought that reply important, and did not appear satisfied. Mr. Glyn-Jones, the Chairman, Mr. Hick, and others pointed out that, although the Dentists Act appeared on the rules amongst those under which defences were conducted, the "infamous conduct" prosecutions of the G.M.C. would not come under that Act. Mr. Pentney hoped that would be made clear, as he anticipated many prosecutions as a result of the recent decision of the G.M.C. on the question of advertising by dentists. The Chairman finally called upon Mr. Beck to give the legal view on the matter, and Mr. Beck said, in his opinion, the whole purport of the rules was that the Association was for defending chemists as chemists only, and they had no power to take up such a defence as that of breaches of the General Medical Council's regulations. Mr. Pentney expressed himself satisfied. The report, statement, and balance-sheet were unanimously passed, and votes of thanks awarded to the Chairman and officers of the Association.

At 12.15 P.M. about fifty members of the Proprietary Articles Trades' Association assembled for the annual meeting, Mr. Albert Cooper (President) in the chair. The President's address was of a particularly happy character.

Mr. Glyn-Jones paid a tribute to the loyalty of his staff, and the report and statement were unanimously adopted.

At the luncheon which followed the only toasts were "The King," proposed by the Chairman, and "The Ladies," proposed by Mr. C. T. Kingzett (Sanitas Company, Limited) and replied to by Mr. A. Tebbutt (W. Sutton & Co.). After luncheon a delightful drive was taken through the forest, the party breaking the journey for a short time at High Beach.

The British Congress of Tuberculosis.

By A Member Thereof.

THE Congress, which was formally opened by H.R.H. the Duke of Cambridge on Monday, July 22, in the presence of an audience somewhat in excess of the accommodation of St. James's Hall, Piccadilly, W., is the logical sequence of the momentous discovery by Professor Koch of the bacillus of tuberculosis in 1865. Prior to that epoch-marking discovery—indeed, until his views had been generally received and adopted by the medical profession and the public—nothing could well be done to stem the ravages of tuberculosis. Hitherto regarded as a disease mainly due to hereditary predisposition, and in a minor degree to the social conditions of the lower classes, its prevalence was accepted as inevitable. A striking change has come to pass, well within the memory of the present generation. Recognising and admitting the fact that the disease is acquired and not inherited, and, moreover, that it is transmitted by the agency of a specific organism, we are in a position to study the mechanism of its transmission and the means available for circumscribing its further spread.

Judging from the numerical standpoint the Congress is a decided success. Between two and three thousand delegates and members have registered their names, and the number and variety of the communications set down for reading in the various sections testify at any rate to the very great interest taken in the question all over the world, a large proportion of delegates from foreign countries having contributed their quota. The organisation appears to have been well conceived, and the crowds of applicants for registration were rapidly dealt with, the precaution having been taken to begin the process on Saturday, July 20, and to open the office on Sunday.

The Opening Ceremony

was graced by the presence of many distinguished persons, whose remarks, if they in some instances did not afford evidence of any great knowledge of the subject, manifested the very general interest taken in the prevention of consumption. The Duke having introduced himself as representing his Majesty the King, welcomed the foreign delegates, and declared the Congress open. He was preceded by Mr. Malcolm Morris, who gave a brief history and programme of the Congress; and was followed by the Marquis of Lansdowne (Secretary for Foreign Affairs), who also welcomed the foreign members and delegates, pointing out that the loss inflicted upon a nation by the most disastrous of wars was as nothing compared to the annual mortality of this one disease. Among the other speakers were Earl Cadogan, the Lord Mayor, Lord Strathcona, Earl Derby, and Lord Lister, who received a veritable ovation. Before the meeting came to an end, the Duke announced that a sum of 120,000*l.* had been subscribed for establishing a sanatorium where the treatment of tuberculosis could be carried on under the best approved methods.

In the evening a reception of the members was held in the Queen's Hall.

At the general meeting on Tuesday afternoon, under the presidency of Lord Lister,

Professor Koch, of Berlin,

delivered an address on the means of combating tuberculosis in the light of the experience that has been gained in the successful combating of other infectious diseases. He briefly reviewed the evolution of ideas on the subject during the last thirty years, and pointed out that it is a great blunder to treat pestilences on any uniform plan. Each disease, he remarked, must be treated according to its special individuality, and the measures to be taken against it must be accurately adapted to its special nature and to its etiology. To illustrate this contention he instanced the important bearing which the discovery of the interdependence of rat plague and human plague has had on the measures required to prevent it gaining a footing. In regard to cholera the same thing holds good when its propagation by contaminated water is ascertained, and hydrophobia can be stamped out by compulsory muzzling properly enforced. Even more apposite is the discovery of the contagiousness of leprosy, thanks to which it is now possible to bring about the extinction of the disease, though the process is somewhat long, because it is thought better to avoid undue harshness in securing the segregation of lepers. With respect to the hereditary transmission of tuberculosis, though this admittedly does take place in rare instances, it may, he said, be treated as a negligible quantity. Infection from food was, by some, regarded as the most important channel of contamination, but he himself had doubts on the subject. He asserted without hesitation that the tuberculosis of poultry is quite different from the disease in human beings, so that we may limit our investigations to the tuberculosis of cattle. He related in this connection certain experiments which he has carried out on cattle. He has found, for example, that cattle inoculated with, or fed upon, or made to inhale, the products of human tuberculosis, do not contract tuberculosis, and positively seem to thrive, though they prove amenable enough to tuberculosis of bovine origin. Similar experiments upon young swine gave equally conclusive results, as did experiments carried out on asses, sheep, and goats. The conclusion he has arrived at—a conclusion fraught with far-reaching consequences—is that human tuberculosis differs from that of cattle and cannot be transmitted to them. Turning to the converse problem—viz., whether bovine tuberculosis is susceptible of transmission to human beings—he admitted that his data are insufficient. We cannot investigate the action of bovine tuberculosis directly upon human beings, and we are reduced to indirect means of settling the question. He pointed out, however, that the active bacillus abounds in many specimens of milk and butter consumed in great cities, and if their ingestion could give rise to tuberculosis then tuberculosis ought to be even more rife than it is. Infection of the alimentary canal, primary tuberculosis of the intestine, is a very rare occurrence, and is practically never met with except in conjunction with lesions elsewhere. This being so, it becomes impossible to exclude other modes of infection, but it is easy to ascertain whether a given lesion is due to bovine or human tuberculosis by cultivating the microbe and trying whether the cultures infect animals. He himself holds that infection by the meat and milk of infected animals is as exceptional as hereditary transmission, which he had already declared to be infinitesimal. It follows that the great source of tuberculosis in human beings is direct infection from the sputum of infected persons.

A discussion followed, but to this and the work of other sections we shall return later.

On Tuesday many delegates from local authorities of the United Kingdom were present, amongst them Mr. Claridge Druce, Mayor of Oxford, and Mr. Robert Woolley Walden, 65 Elizabeth Street, Eaton Square, S.W., Chairman of the Committee of Public Health of the Westminster City Council.

One of the most valuable features of the Congress is

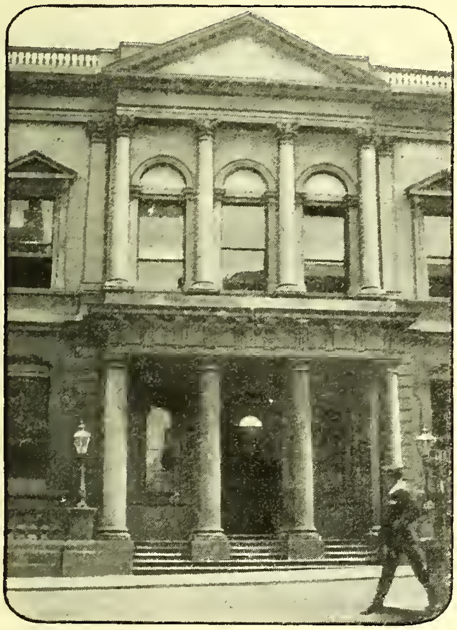
The Museum,

which will remain open until July 26. The collection is unique, and of great scientific interest. It is under the direction of Dr Jobson Horne, who has compiled a most admirable catalogue. There is also a splendid display of specimens to illustrate the processes of tubercle formation and destruction in all stages, and in every tissue and organ of the body, and also in the lower animals. An exhibit of particular interest is a set of five tubes containing cultures of the tubercle bacillus obtained direct from the original organism isolated by Professor Koch in 1881. In the anatomical section there are models showing that every organ in the human body can be infected by tuberculosis. Of subjects of direct pharmaceutical interest there are few. In the second section of the Museum there are many statistical tables dealing with tuberculosis, and photographs of models, drawings, plans, and photographs of those places where the disease is treated in the first stages. There are also a model, plans, and photographs of the serum-factory of Messrs. Meister, Lucius & Brüning, together with exhibits of the preparations they manufacture.

The Apothecary's Art in Dublin.

IN the year 1566 Thomas Smith was granted a "concordatum" of twenty shillings and one day's pay from every soldier in garrison to encourage him to remain in Dublin to act as an apothecary, and to supply "fresshe and newe druggs and other apothecarye wares in plentifull manner to the needefull and good helpe to such of Englishe byrthe in this realm resident," &c. The Irish had, perhaps, less need of his "druggs," for the reason that domestic medicine had reached a fairly high standard, judging by the numerous Irish MSS. on medicine in the libraries of Trinity College and the Royal Irish Academy. A peculiarity of Irish medical practice seems to have been the application to it of the hereditary principle, certain families having the monopoly of supplying drugs.

The Royal College of Physicians in Ireland was the first society to undertake the regulation of pharmacy. In 1692 they found their charter not sufficiently stringent to prevent increase in the number of unskilful and illiterate practitioners and to deal with the frauds and deceits of empirical apothecaries and druggists which abounded. The old charter was accordingly surrendered and a new one obtained. The defects in this were remedied in an Act of the Irish Parliament dated 1761, known as Lucas's Act, which is interesting, as it embodies suggestions that are made in the present day for regulating certain abuses. It provides, for instance, that nostrums may only be sold under the sanction of the college, and this was not granted until the composition of the article was ascertained. The Act also requires that physicians "shall set down in words at length, and not in chemical or numerical characters, the quantity of every ingredient prescribed" under a penalty of forty shillings. The College, jointly with the Apothecaries' Hall, also possesses the power of searching shops for bad drugs. The Dr. Chas. Lucas referred to kept an apothecaries' shop in Charles Street, Dublin, and subsequently became a physician. He took a prominent part in politics, and represented the city of Dublin in the Irish Parliament. His iconoclastic methods earned for him the title of the "Wilkes of Ireland." There is a statue of him in the City Hall, Cork Hill. Lucas seems to have quarrelled with the physicians, and when the inspectors came to search his shop they found he had obliterated the labels on the bottles, and otherwise played tricks on them. The physicians, it is recorded, were exceedingly embarrassed when he pointed out that what they took for rhubarb root was toast dusted with turmeric.



The Royal College of Physicians.

The First Pharmacopœia

which appeared in Ireland was a reprint of the London Pharmacopœia brought out in 1746 by P. Wilson and J. Esdell. Wilson's son printed other editions in 1772 and 1774. A similar production was brought out in 1778 by W. Gilbert, and it was not till 1791 that the College of Physicians issued specimen copies of a Dublin pharmamacopœia. The dates of the three editions are 1807, 1826, and 1850. In the 1826 one buchu and valerian were first officialised in pharmacy. An essay by a Dublin doctor, named Macbride, "on the use of lime-water as a menstruum in place of spirit of wine" was probably responsible for aq. calcis comp.—an infusion of guaiacum, liquorice, sassafras, and coriander in lime-water. A reprint of the 1850 Pharmacopœia, published in 1856, contains as a supplement a series of poison-regulations which, as they anticipated the British regulations by many years, we reproduce :—

> (1) That angular bottles or vessels and none others be employed in the dispensing of all medicines intended for external use.
>
> (2) That round bottles or vessels and none others be employed in the dispensing of medicines intended for internal use.
>
> (3) That all the articles of the materia medica and preparations included in the list which is hereto appended be kept in shops and warehouses in angular bottles or vessels, and also that the same shaped bottles and vessels be employed in the case of such medicines and preparations being sold or delivered.
>
> (4) That all articles of the materia medica and preparations not included in the list appended be kept in shops and warehouses in round bottles or vessels, and also that the same form of bottle or vessel be employed in the case of their being sold or delivered.
>
> (5) That a similar rule be observed with reference to other medicines which though not in the list of this Pharmacopœia may be kept by apothecaries and druggists—namely, those possessed of dangerous qualities should be invariably kept and sold or delivered in angular bottles or vessels.

The lists which followed included everything in the Pharmacopœia possessed of direct or remote poisonous qualities.

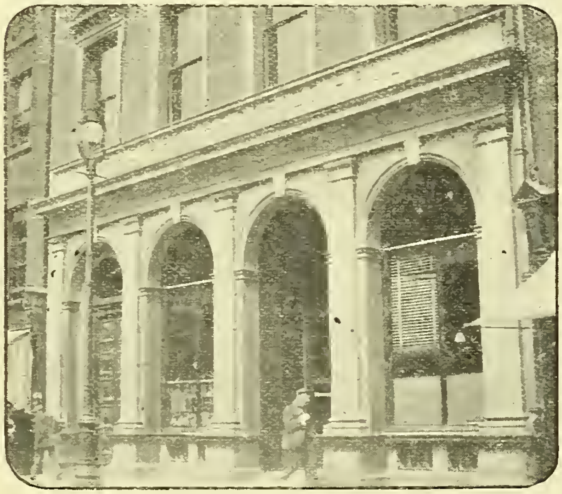
The Apothecaries' Hall of Ireland

was incorporated in 1746, and in 1790 petitioned the Irish Parliament for power to raise a fund—

> For erecting an Apothecaries' Hall, to be supplied with medicines of the purest quality and prepared under the inspection of persons skilled in the art and mystery of such preparations, the want of which, as well as the unskilfulness and ignorance of divers persons who pretend to the Art, causes injury to the fair trader, disappointment to the physician, and infinite hazard to the lives of his Majesty's subjects.

The petition was granted, and in 1791 sixty debentures of 100*l*. each were issued, and the present building in Mary's Street erected, 2,000*l*. more being raised for supplying the shop with stock, and Mr. Wm. Higgins engaged to superintend it at what was then the large salary of 200*l*. a year. In the "elaboratory" behind the shop, galenicals and chemicals were made, but a contemporary history of Dublin relates that the distillation of essential oils was abandoned, as they could be bought cheaper from England. The Act established examinations to test the competence of apothecaries, and declared that no apothecary shall "grind, compound, sell, or keep any arsenic, oils, or colours for painters' use in the shop or room wherein he compounds medicine," and all sales of arsenic of less than a pound weight were to be entered and signed for. The latter provision seems to be the origin of the precaution of signing for poisons, which was first adopted in Great Britain in the Arsenic Act of 1851. The apothecaries afterwards became medical men, like their *confrères* in England. At one time the Hall was a teaching body, and the buildings in Crow Street, now used as a medical school for the Catholic University, formerly belonged to the

Apothecaries' Hall, that body having built the schools on the site of Apothecary Wetherel's physic-garden. The Hall is no longer a teaching body, but for the purposes of examination has well-equipped laboratories and dissecting-rooms. There are some interesting oil-paintings in the examination-hall, and a 200-year-old mace in the form of a rhinoceros (or possibly a bear from which bear's-grease was made), which Professor Tichborne informs us is doubtless an old guild-insignia. Mr. R. Montgomery, the Secretary and Registrar, was the examiner in pharmacy for the Pharmaceutical Society of Ireland in the first five years of its existence. Professor C. R. C. Tichborne was born in Birmingham in 1839, and after a six-years' apprenticeship at a chemical-works, studied under Hofman at the Royal College of Science in London. He was then appointed chemist to the Apothecaries' Hall. Professor Tichborne was President of the Pharmaceutical Society of Ire'and from 1878 to 1884, and is now a member of the Council, besides being professor of chemistry in the Society's school. Amongst the original work which the Professor has done may be noticed the detection of lithium in Schwalheim water and the discovery of colophonic hydrate in the products of the distillation of resin. He represents the Hall on the General Medical Council. We may here diverge slightly to notice



Two Pharmacists

who were connected with the Apothecaries' Hall. The one better known to pharmacists is Michael Donovan, who was professor of chemistry, pharmacy, and materia medica, to the Apothecaries' Hall School of Medicine in 1820. He had an apothecaries' shop, in partnership with a Dr. Dobbin, in Townsend Street, but afterwards moved to 11 Clare Street. The fittings of his shop are still in use in Price's Medical Hall on the other side of Clare Street. Donovan, in 1829, published a pamphlet on the "State of Pharmacy in Ireland," and also a periodical called the "Annals of Pharmacy and Materia Medica," which, however, had but a brief existence. He was anxious that apothecaries should be pure pharmacists, and made an abortive attempt to found a College of Pharmacy for Ireland. In 1839 he published in a Dublin journal his formula for "Liquor arsenici et hydrargyri hydriodatis," which was introduced into the Dublin Pharmacopœia in 1850. The solution was made by the direct union of arsenic, mercury, and iodine. The B.P. 1885 introduced Sonbeiran's modification of the formula, iodide of arsenic and mercuric iodide being employed as in the present B.P. Another preparation which goes by Donovan's name is syrup of cinchona, the formula for which is given in "Pharmaceutical Formulas." Professor Donovan read a paper in 1843 at an evening-meeting of the Pharmaceutical Society of Great Britain on the extemporaneous production of prussic acid from cyanide of potassium, and in later years published results on investigations on James's powder and tincture and extract of henbane. The assistance which he gave in the preparation of the last Dublin Pharmacopœia is acknowledged in the preface of that volume. Donovan died in 1876. The other Apothecaries' Hall professor of chemistry was Sir Robert John Kane. He was the son of the proprietor of chemical-works on the banks of the Liffey, and became professor of chemistry in 1831. He is best known for a work he wrote on the "Industrial Resources of Ireland," but his "Elements of Pharmacy," published in 1831, is a thoroughly scientific production. A copy which lies before us is inscribed by the author as being a reward to a pupil for "superior answering in chemistry and physics at an examination held at the Apothecaries' Hall, 1832" An engraved portrait of Sir Robert Kane is preserved at the Apothecaries' Hall.

As the apothecaries realised that the training necessary to pass the Hall-examinations entitled them to practice medicine, fewer of them kept open shop. This caused a complaint from the physicians that practising-apothecaries were so few and far between that it was often difficult to get prescriptions dispensed, and it was this which led to the establishment of the

Pharmaceutical Society of Ireland.

An Act to regulate the sale of poisons in Ireland had been passed in 1870, and five years later the Irish Pharmacy Act was passed. This Act constituted the Pharmaceutical Society of Ireland with power to examine, license, and register pharmaceutical chemists. The 1875 Act was amended in 1890 and 1893, a druggist grade being established. The first Council consisted of two-thirds medical men and one-third pharmaceutical chemists, a constitution which gave the Society considerable prestige to start with. The College of Physicians housed the Society in Kildare Street, and the examination-hall was used for the early examinations and annual meetings. In 1883 the Society removed to Harcourt Street, and the present Registrar (Mr. Arthur T. Ferrall) was appointed in 1884. Although the accommodation was not extensive, evening meetings were held and a school of chemistry established. Later, a move was made to 67 Lower Mount Street, the present house of the Society, the interior of which is decorated with considerable taste, the ceilings and mantelpieces being in admirable style.

The Pharmaceutical Society's House.

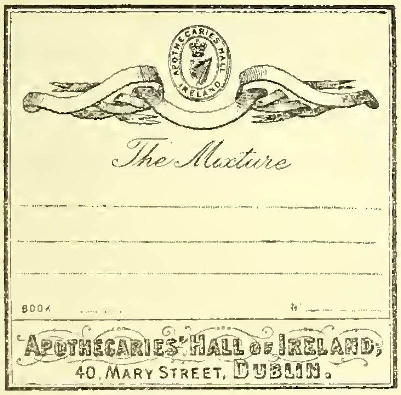
We shall now describe some of the principal pharmacies in Dublin, taking them in alphabetical order.

Mr. W. N. Allen, 48 Henry Street.

The pharmacy which Mr. William Nassau Allen presides over was founded in 1828 by his grandfather, an apothecary, who carried it on for fifty years. The house is an interesting one, having once been the town residence of the Bishop of Longford. The walls are panelled with dark oak, and the staircase is finely ornamented even down to the basement. The fittings have undergone a few changes since they were first placed in apothecary's shop, but the cornice over the shelving with the shamrock-leaf design is part of the original cabinet-work. Mr. William Allen, the son of the founder and father of Mr. W. N. Allen, was one of the founders of the Irish Pharmaceutical Society. It is curious that William Allen is the first name mentioned in the charter of the Pharmaceutical Society of Great Britain and in the Irish Pharmacy Act, 1875. The compounding department at Henry Street is behind the shop, whilst further back are the laboratories (pharmaceutical and chemical) and storerooms. Mr. W. N. Allen is the oldest member of the Irish Society, and was one of the first pharmaceutical chemists to pass the licence examination (1876). He became a member of the Council of the Society in 1880, after the death of his father, and was President for the year 1886-7. Mr. Allen's hobby is botany, in which he takes a keen interest, and his drawings from the microscope are beautiful productions. For some time he has been engaged on various hepaticæ, the drawings illustrating papers delivered before the Royal Irish Academy. "My friends," said he to the *C. & D.* representative, "apologise when they bring the specimens for me to draw, but I am fond of the work and so do not find it tedious."

Apothecaries' Hall, 40 Mary Street.

The shop, which was furnished in the eighteenth century, bears evidence of the solidity which was a characteristic of the cabinet-work of those days. The pilasters are in solid mahogany, and the hand-made shop-rounds are gold-labelled, the present labels being descendants of the originals. There is a gallery running round the upper part of the pharmacy, a style which seems to have been very prevalent in Dublin at one time. It gives a greater height to the shop, but of course robs the first storey of much floor-space. A large prescription-trade is done at the Hall, medicines being supplied to all parts of Ireland. Many of the convents and monasteries in the Green Isle will have nothing but the medicines from the Apothecaries' Hall. The "elaboratory" which Higgins designed is still in use, with, of course, the improvements of subsequent years added. The storerooms are extensive, some of the "cellars cool" having a decidedly creepy appearance. The army in Ireland has been supplied with drugs from the Apothecaries' Hall for about eighty years.


APOTHECARIES HALL
IRELAND

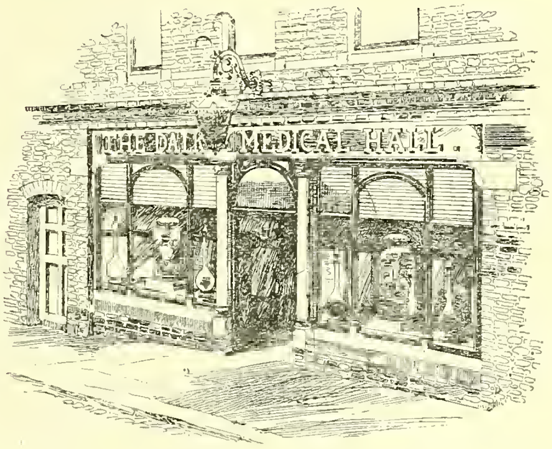
The Mixture

BOOK N°

APOTHECARIES' HALL OF IRELAND;
40, MARY STREET, DUBLIN.

Mr. G. D. Beggs, Dalkey Medical Hall.

Mr. George David Beggs was apprenticed with Messrs. Boileau & Boyd for five years in the old hundred-guinea-fee days. He stayed on with his apprentice masters, being with them for thirteen years altogether. In 1877 Mr. Beggs passed the Licence examination and started a business at Dalkey, co. Dublin, his native town. For six months the medical hall was carried on in temporary premises while the house and shop where Mr. Beggs is now located were a-building. The Dalkey business is devoted to prescription-work and the sale of medical requisites, the "pureness" of the pharmacy being such that nothing like it exists in England for comparison. Each of the windows has in it a specie jar and two carboys, and nothing else. A feature of the medical hall is the polish the glass-ware and furniture display; indeed, it is no uncommon thing to see Mr. Beggs rubber in hand, polishing some bottle or square of glass which has not a sufficiently high polish on it to satisfy his critical taste. The compounding department is separat from the shop, and although its contents are out of sight of customers they are, nevertheless, kept in mathematical order. Mr. Beggs has been connected with the Pharmaceutical Society for a number of years as Vice-President, Treasurer and was elected to his present position of President on the death of the late Mr. R. J. Downes in the early part of 1900e Mr. Beggs has a branch business at Ballybrack, in the Killiney district. He is well known for the interest he takes. in the welfare of the inhabitants of Dalkey, he is, in fact, "Secretary of everything" which makes for the benefit of his fellow-townsmen. His hobbies are cycling and photography.

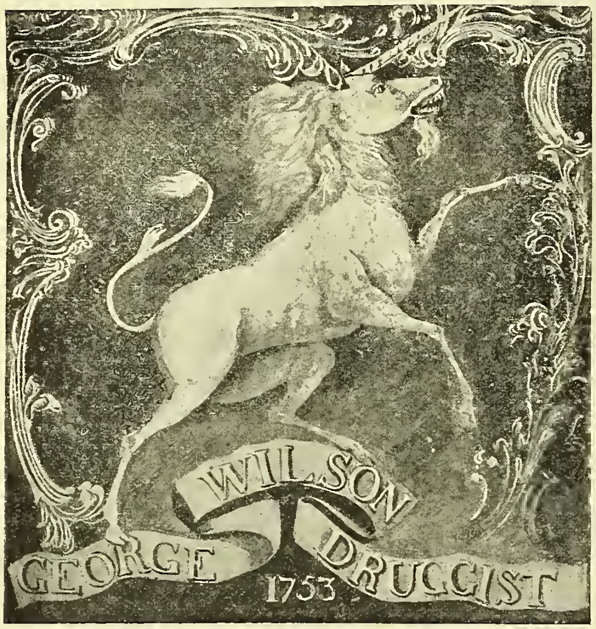


Messrs. Boileau & Boyd (Limited), Bride Street.

This business is this year celebrating its bi-centenary. It was founded in 1700 by an apothecary, Robert Wilson. The changes which the hand of time has subsequently wrought being shown by the following table taken from the bi-centenary souvenir recently published by the firm :—

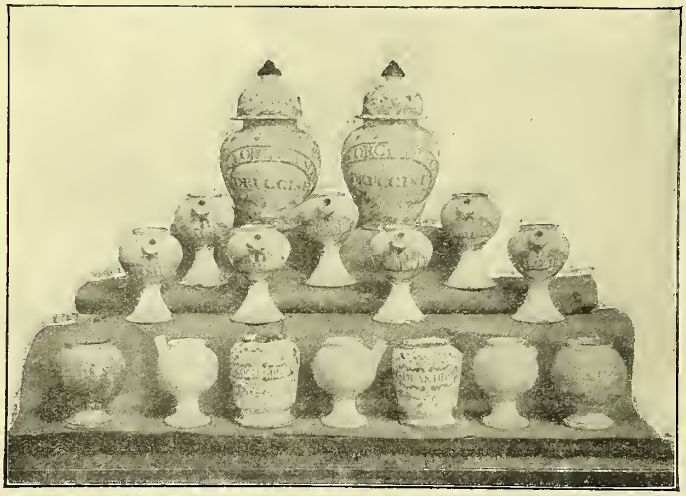
1700 to 1754 Mr. Apothecary Wilson.
1754 to 1786 George Wilson.
1786 to 1789 Wilson & Boileau.
1789 to 1799 John Theophilus Boileau.
1799 to 1812 Boileau, Sons & George.
1812 to 1837 Boileaus & George.
1837 to 1847 Boileau Brothers.
1847 to 1853 Boileau & Usher.
1853 to 1857 Boileau Brothers.
1857 to 1859 Boileaus & Wilson.
1859 to 1894 Boileau & Boyd.
1894 to present date Boileau & Boyd (Limited).

The directors of the firm are Mr. S. P. Boyd, M.A., J.P. (Chairman), Mr. J. B. Boyd, Mr. Walter Boyd, and Mr. J. A. Gardiner. Among the reminiscences of the house may be classed a group of old pharmacy pots of great interest. Seven of the older ones used for liquid medicines are labelled "De Pomma," "Caiioph," "De Hysso," "Nymph," "Peoniæ," "De Artem," and "Cydonio." These, with two jars labelled "C. Coch. Hort." and "Ther. Androm.," were probably part of the fittings of the original pharmacy. There are also two handsome leech-jars still extant, bearing the name of "George Wilson," and some syrup-jars of the late eighteenth century. The firm have wholesale premises abutting on Bride Street, Golden Lane, and Chancery Lane, and retail pharmacies at 46 Mary Street and 6 Merrion Row (close to the Shelbourne Hotel). Mr. Walter Boyd presides over the Merrion Row business. Mr. S. P. Boyd studied



Old Sign of a Founder of the Business of Messrs. Boileau & Boyd (Limited).

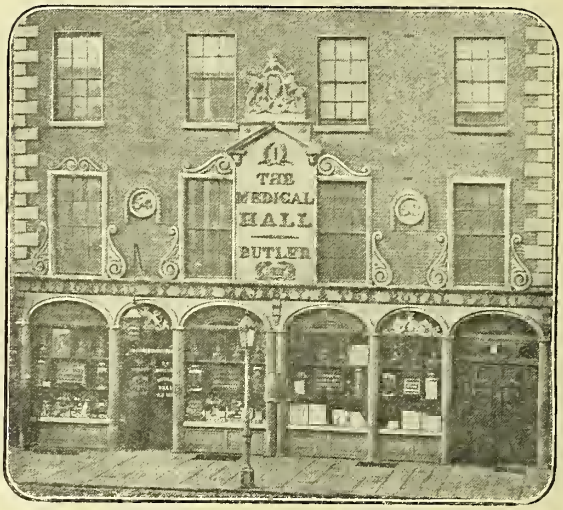
chemistry at Trinity College and the College of Science. He had only just obtained his M.A. degree when he was called upon to take charge of his father's chemical works at Rogerson's Quay. These works have since been acquired by the United Alkali Company. As may be expected from such an old-established firm its alumni are numerous. The present President and Vice-President of the Pharmaceutical Society served their apprenticeships at Bride Street, as also did Mr. Samuel Figgis, the well-known London drug-broker. Mr. E. T. Brewis, Messrs. Stafford Allen & Co.'s chemist, was for some years with Messrs. Boileau & Boyd.



Group of old Pharmacy Pots in the possession of Messrs. Boileau & Boyd (Limited).

Butler's Medical Hall, 54 Lower Sackville Street.

This establishment is beneath the shadow of the O'Connell statue, on the left-hand side as one passes over the O'Connell bridge. It was founded in 1817 by Dr. Charles Butler, who claimed that it was the first of its kind opened in Ireland, and founded it for "the importation of genuine drugs and the manufacture of chemicals and pharmaceuticals." Dr. Butler published a "Medicine-chest Directory and Family Catalogue," a book which ran into 327 pages and several editions. On Dr. Butler's death the hall was carried on by Mr. Bell, an apothecary who had served as assistant for many years. Mr. Bell's widow is now the proprietor, Mr. Henry O'Connor, pharmaceutical chemist, being entrusted with the management. Mr. Beatty, the nephew of the proprietor, was apprenticed with Mr. H. Conyngham, Upper Baggot Street, and is reading for the Licence examination. He has had English experience, having been with Mr. Wootton, Margate, for some time as assistant. Dr. Charles Butler was in some way connected with the old firm of Messrs. Butler & Crispe, London, the proprietaries of each firm being similar in many respects. The exterior is delightfully quaint, a row of busts (not shown in the picture) surmounting the premises. An old picture of the original style of window-dressing is extant, each pane of the window on the upper row containing a carboy, the lower panes a specie-jar. Even now the row of coloured bottles with a gas-jet behind each bottle has a most picturesque appearance in the evening. The compounding department is separated from the retail portion of the shop entirely. The most prominent object which meets the eye on entering the shop is a bust of Hippocrates on a tall stand inlaid with brass of exquisite workmanship. The two shop chairs, the carved back of each being formed of an Irish harp surmounted by a crown, were formerly in the Irish House of Commons. The framed warrant of appointment as chemist to the Duke of York in 1826 hangs in the shop, the proprietors having been also apothecaries to the King and Lord-Lieutenant. The Corinthian columns supporting the ceiling cannot but be admired. The original recipe-book, bound in red morocco, is still in use, its size allowing of successive recipes being added. The early practice here was to combine the day-book with the prescription-book, but these were separated before many years and form an unbroken record from the commencement. In the dispensary the system of checking is worth attention. All the bottles from which ingredients have been taken are left on the counter for a second party to check, and in addition poisons are witnessed at the time of weighing or measuring. Betton's British oil, the original and true Dr. Bateman's pectoral drops, Daffy's, Bostock's Radcliff's, Stoughton's, and Bateman's elixirs, Bateman's golden and plain spirits of scurvy-grass, and French Hungary water are still manufactured.



Messrs. Evans, 49 Dawson Street.

This apothecaries' hall was described in some detail in The Chemist and Druggist three years ago, but it is so unique that we may be excused if we go over the history again. The present proprietors (Messrs. Charles & John Evans) are pharmaceutical chemists, Mr. John Evans being also an apothecary (L.A.H. Dub. 1874, and Lic. and Lic. Mid. R.C.S.I. 1890). Dr. John Evans, M.D., the father of the present proprietors, acquired the business in 1863. It was founded, however, in 1684 by M. Hastings, that fact being burnt into ten pharmacy pots which still survive. Godfrey & Cooke's business in London was founded in Southampton Street, Covent Garden in 1680, so that Evans's is the second oldest in the United Kingdom. We may recall the fact that the Hon. Robert Boyle, a distinguished Irishman, was the means of inducing Ambrose Godfrey Hanchwitz, the founder of Godfrey & Cooke's, to come to England as his assistant in experimental chemistry. The chronological record of Evans's is not quite complete, but it is known that in 1774 Patrick Hastings was the proprietor, and in 1792 John Hastings, who in the year of the Rebellion (1798) was Governor of the Apothecaries' Hall of Ireland. It was then owned successively by Nathaniel Craven, John Nicholls, and Edward Nicholls, and was for many years carried on as Craven & Nicholls until it was acquired by the late Dr. John Evans. In 1863 there was a pump in the shop by which water was raised from a well for dispensing. It was at this establishment, on Sunday, April 30, 1769, that a prescription for the Countess of Mornington and her newly born son, who became the great Duke of Wellington, was dispensed. The house where the Duke was horn is 24 Upper Merrion Street (leading out of Merrion Square), now the offices of the Law Commission. Visitors to the Conference are invited to call at 49 Dawson Street and see the interesting relics of the old pharmacy.

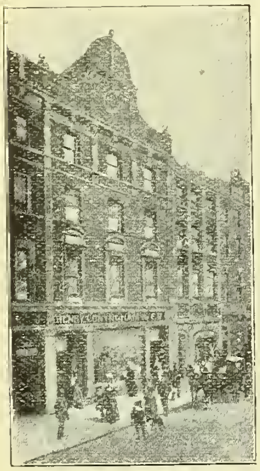
Messrs. J. J. Graham & Co., 30 Westmoreland Street.

This medical hall was founded in 1821, the first prescription being copied on July 16 of that year. The original proprietor was Mr. Pring, a relative by marriage of Grattan, the well-known apothecary of Belfast. He was followed by W. J. Eames, and J. J. Graham. The present proprietor is Dr. James Aloysius Walsh, who, after serving a four years' assistantship, became the owner some ten years ago. Dr. Walsh served his apprenticeship at Dr. White's Medical Hall, Kilkenny, and qualified as a pharmaceutical chemist in 1888. In 1892 he took the Scotch triple qualification of L.R.C.P., Edin., L.R.C.S., Edin., and L.F.P.S., Glasgow. The hall is well fitted, the front shop having a gallery round the top, giving it a lofty appearance. There are dispensed an average of over a hundred prescriptions a day, and as this has been going on for about eighty years, the prescription-books have gone through the alphabet eight times. In one of the books is a prescription for George IV., which was dispensed when his Majesty was staying in Ireland. Dr. Walsh is apothecary to the two gynecological hospitals of Dublin—the Rotunda and the Coombe. The record service of Michael, the porter of forty-three years, is worth mention, and his hale and hearty appearance shows that the drug-trade is a healthy one.

Messrs. Hamilton, Long & Co. (Limited), 3 Lower Sackville Street.

This business was founded in 1826 by Mr. Samuel Bewley, the first prescription being copied on September 6, 1826. The firm afterwards became Bewley & Evans, the junior partner being Dr. Evans, father of the Messrs. Evans, 49 Dawson Street. Dr. Evans left the firm, and carried on a business in South Richmond Street before he acquired the Dawson Street Medical Hall. The next firm-name was Bewley & Hamilton, this being changed to Hamilton & Long when Bewley retired and Dr. Long became a partner. The present limited company was formed in 1878, the chairman of the directors now being Sir Edward M. Hodgson. Dr. Long still acts as "consulting" manager to the acting managers—Mr. J. A. Mitchell and Mr. J. B. Alister. Mr. Mitchell holds the licence of the R.C.S.I. and Apothecaries' Hall, Dub. (1900), whilst Mr. Alister became a pharmaceutical chemist in 1892. The firm are State apothecaries, the warrant from the late Queen being granted in 1884; the warrant from King Edward VII. may probably arrive before these lines appear in the *C. & D.* Messrs. Hamilton, Long & Co. were appointed Chemists to the Viceroy in 1865, and have acted in that capacity ever since. They have four branches—Grafton Street, Kingstown, Rathmines, and Clontarf, the first two being old-established businesses. The prescription book now in use is marked N. 13, and sufficiently indicates the extent of the prescription-work done in the Sackville Street business. The phœnix trade-mark, which was placed on the front of the house in 1826, has recently been housed, as the bird was becoming dangerously worm-eaten. The phœnix trade-mark is an appropriate one as the recent change in management is being followed by a vigorous rejuvenating policy, which should bring extended popularity in its train.

MESSRS. HAYES, CONYNGHAM & ROBINSON (LIMITED).


MR. H. CONYNGHAM'S PHARMACY, 32 UPPER BAGGOT STREET.

This company own eleven businesses, and is one of the most important amalgamations of retail chemists in the United Kingdom. Mr. H. Conyngham tells how the amalgamation took place. After a study of the chief stores in London, he concluded the best way of resisting competition in modern trading was combination. This idea ultimately led to the formation of the company in 1897 with a capital of 30,000*l.* in 5*l.* shares, and 30,000*l.* in 5-per-cent. mortgage debenture stock. An important proviso of the company is that none but qualified chemists may be shareholders, *the* difference between it and many other drug-companies. Mr. Wm. Hayes was one of the founders of the Pharmaceutical Society, and a past President. He is the son of Mr. W. H. Hayes, Edmondstown, and was apprenticed to Messrs. McMaster, Hodgson & Co., Capel Street, Dublin. Soon after the completion of his apprenticeship he began business at 12 Grafton Street (thirty years ago) as a wholesale and retail chemist and druggist. He was the Hon. Secretary of the local committee when the Conference met in Dublin in 1878. Lately the business of Messrs. Anderson & Adams carried on till six months ago by Mr. J. E. Brunker at 68 Grafton Street has been absorbed; this in its turn had acquired the business of Messrs. Martin & Jones, Grafton Street, one of the oldest businesses in Dublin, and that of Dr. Moore. All the recipe and prescription books of these businesses are in the possession of Messrs. Hayes, Conyngham & Robinson (Limited). Mr. H. Conyngham, who manages the Baggot Street house in particular, is a Derry man, and an ancestor of his occupied the mayoral chair soon after the famous siege. Mr. Conyngham was taken to Australia when quite young, but was not there long. On his return he was apprenticed to a Derry apothecary, then came to Dublin. The Baggot Street house was first opened at 11 Upper Baggot Street, over forty years ago, by Messrs. Hassy & Harly, apothecaries, who had absorbed the old business of Dr. Herron, the first apothecary in the district, also that of Dr. Woodroof. The business was removed eleven years ago to 30 and 32 on the opposite side of the street in a new building, and now forms the West End business of Messrs. Hayes, Conyngham & Robinson (Limited). Mr. Conyngham lives in a charming house at Blackrock, and is fond of speculating on such interesting topics as Egyptology and the origin of man. The Kingstown house which Sir Thomas Robinson looks after was opened by Dr. Finucar, M.D., in 1835; it was sold by him to Dr. O'Flatherby, M.D., who about 1865 disposed of it to Mr. A. E. Doran. It was then sold to Mr. H. Conyngham and Mr. H. Bennett. In 1874 Mr. Conyngham retired from it, and Mr. Bennett (now Dr. Bennett) sold it to Dr. John Evans, who again sold it to Mr. Robinson as he then was. A well got-up cloth-covered price-list dated 1873 issued by Messrs. Conyngham & Bennett is still extant, showing that go-a-head principles were then as now an integral part of the business. An excellent system of book-keeping has been devised, each business belonging to the company filling up certain forms which are transmitted weekly to the head office. The aggregate number of prescriptions dispensed by the company is astonishing. Sir Thomas Robinson was knighted on the occasion of the visit of Queen Victoria to Ireland in 1900; he was the first man to welcome her.

MR. PATRICK KELLY, 16 South Richmond Street.

Mr. Kelly was born in Kildare, but as he was brought to Dublin two years afterwards he may almost be considered a native. He was first with Messrs. Anderson & Adams, Grafton Street, and then with the Messrs. Evans, 49 Dawson Street, his term of assistantship at the latter pharmacy running to sixteen and a half years. He obtained the licence of the Pharmaceutical Society in 1883, shortly afterwards opening his present business at South Richmond Street. In the business he is largely helped by his two sons, the elder of whom is qualifying as a surgeon. Mr. Kelly's time is largely taken up with teaching; he has been for fourteen years assistant to Dr. Tichborne, the professor of chemistry at the Pharmaceutical Society's school, and also does a lot of coaching privately. About half the chemists on the Irish register have passed through his hands.

DR. LEONARD'S MEDICAL HALL, 76 Dame Street.

Dr. James Charles McWalter is the proprietor of six medical halls, known under the above title, from the previous owner. Dr. McWalter's career is one of indomitable perseverance, which younger men might study with advantage. He made his first acquaintance with the drug-trade as apprentice to Dr. Leonard in 1882, and was soon fired with ambition to become as fully qualified as possible. The matriculation was successfully passed, and then the examination for pharmaceutical chemist in 1890. All the while attending business Dr. McWalter studied for the medical profession at the school of medicine of the Catholic University of Dublin till in 1897 he obtained the L.R.C.S.I., L.M., and L.A.H. (Dublin). Last year he took the diploma in public health of the R.C.P.S.I. The business which Dr. McWalter conducts is a combination of a drug-store and doctor's-shop—a union which is a great advantage in the way of prescribing. The medical halls are all smartly fitted up, white being the prevailing tint of the decorations. In one of the establishments we noticed a materia-medica collection, in which were displayed specimens of every drug in the British Pharmacopœia. Women assistants are employed in some of the halls, they make very capable dispensers and good pharmacists. Miss Clinton, who is to read a paper on aromatic syrup of cascara sagrada, has been trained by Dr. McWalter. A qualified pharmacist is in charge of each shop, and the doctor visits each of the shops two or three times a day to prescribe for patients.

76 Dame Street.

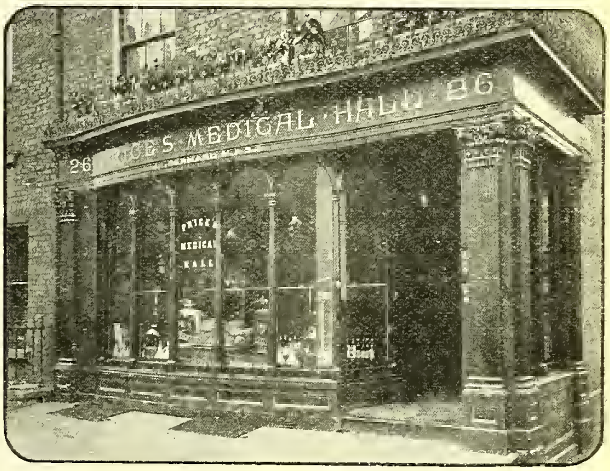
Mr. James Michie, Blackrock.

The medical hall carried on by Mr. Michie will be passed by those members of the Conference who go by tram to Dalkey on Tuesday evening. The shop is a very smart one, and has just been refitted in Messrs. Evans, Sons & Co.'s best style. Mr. Michie has been at Blackrock for five years, the business being at that time a thirty-year-old one. It has a well-fitted compounding department, and behind is a particularly capacious store-room, which at the time of our visit was being shelved. A counter, with cupboards underneath, runs round the walls, and gives plenty of space for laboratory work. Mr. Michie qualified in 1888, and is examiner in practical pharmacy for the Pharmaceutical Society of Ireland.

Pharmaceutical & J. MICHIE. Family Chemist
PHARMACEUTICAL & FAMILY CHEMIST

Price's Medical Hall, 26 Clare Street.

The fittings from Donovan's medical hall on the other side of Clare Street (the house is still occupied by a relative of Donovan) were moved into No. 26. The business is therefore, a continuation of one which was "the model of what an apothecary's shop should be," as one who remembers it described it to us. The present proprietor is Mr. J. I. Bernard, Treasurer of the Pharmaceutical Society of Ireland, and Hon. Local Secretary of the Conference. Mr. Bernard was apprenticed with Messrs. Boileau & Boyd, and afterwards managed for Dr. Price's executors for ten years, about seven years ago acquiring the business himself. The pharmacy, decorated in black and gold, is noticeable for the wealth of flowers over the facia. At this time of the year trailing geraniums, calceolarias, and lobelias flourish. The photograph hardly does justice to the appearance of the pharmacy in the summer time. The window now contains only two specie jars and two carboys, the curtain at the back having given place to a carved-oak screen. The drug-drawers are labelled with quaint brass scrolls, the names of the drugs being engraved on the labels. As may be expected from a business so near to Merrion Square, the work done is almost exclusively prescription-compounding. "Hidden mysteries," which is how Mr. Bernard stigmatises a certain class of proprietary articles, are not exposed for sale, and when sold are labelled with a caution to the customer that they are sold without any guarantee. Mr. Bernard is popular with all classes, and has had no change of assistants for five years, showing that he treats his men well. We shall not be betraying any confidences if we note that Mr. Bernard knows a good dog when he sees it, and when an apprentice he won laurels as a pedestrian, doing his mile in 6 minutes 57 seconds. A broken knee owing to overstrain whilst hurdle-racing ended his athletic career, unfortunately leaving behind a partial lameness. This does not, however prevent Mr. Bernard from being one of the most genial men in Dublin.



Mr. John Smith, 3 Terenure Road.

This is a select retail and dispensing business, which has recently been improved by the addition of a new mahogany front, giving special facilities for window-displaying. Mr. Smith is a Scotchman, and was apprenticed with Mr. Johnston, Aberdeen. Seventeen years ago he went to Dublin as assistant to Messrs. Evans, Dawson Street, and seven years ago started in business on his own account. He holds the Minor certificate of the Pharmaceutical Society of Great Britain, as well as the licence of the Irish Society. Mr. Smith acted for five years as examiner in materia medica and botany to the Pharmaceutical Society of Ireland.

Mr. W. F. Wells, 20 Upper Baggot Street.

Pembroke township, in which Mr. Wells' pharmacy is situated, is the West-End of Dublin, and hence it is not surprising to find one of the most select dispensing-businesses in the county situated in it. Mr. W. F. Wells was apprenticed to his father, in Sackville Street, and subsequently helped in the management of the same business, spending altogether some nineteen years with his father. Mr. Wells then determined to start for himself, and opened

Mr. J. I. Bernard (Local Secretary).

Mr. G. D. Beggs.

Mr. S. P. Boyd, M.A., J.P.

Professor C. R. C. Tichborne.

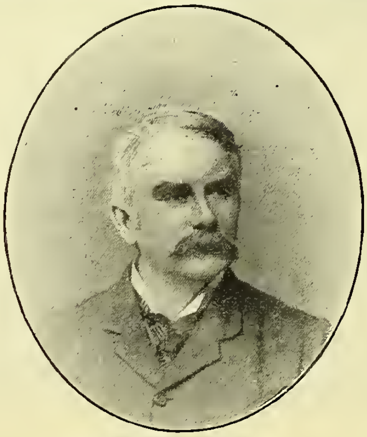
Mr. Henry Conyngham, L.P.S.I.

Mr. Thomas Batt, L.P.S.I.

Mr. W. F. Wells, Past-President of the Pharmaceutical Society of Ireland. Chairman of the Conference Local Committee.

Mr. Patrick Kelly, L.P.S.I.

Mr. H. C. Grimes.



Mr. W. N. Allen, L.P.S.I.

Mr. Robert Simpson, L.P.S.I.

Dr. J. A. Walsh, L.R.C.P., L.R.C.S.Edin., L.F.P.S.Glasgow, L.P.S.I.

Mr. George Brown, L.P.S.I. and Member of the Council.

Mr. T. J. English, L.P.S.I.

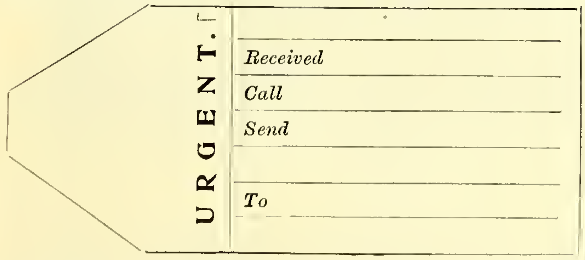
Mr. J. Smith (Rathgar), Pharmaceutical Chemist (Ireland), Chemist and Druggist (Great Britain).

Mr. James S. Ashe, L.P.S.I. Assistant Secretary to Conference Local Committee and also to the Ladies' Committee.

Mr. Frank J. Gill, Agent in Ireland for the Apollinaris Company. Chairman of the Catering and Music Sub-committees.

[*These portraits and those on the preceding page are of active members of the Local Committee.*]

a medical hall at 20 Upper Baggot Street. After being there for six years the lease lapsed, and the Earl of Pembroke renewed it on condition that Mr. Wells rebuilt the premises. This he did in a very handsome style some thirteen years ago. The Royal Dublin Hospital is next door to Mr. Wells's pharmacy, which is very convenient to Mr. Wells, as he is the hospital apothecary. The dispensing of prescriptions has been reduced to a system which minimises chances of errors and facilitates compounding. When a prescription is received in the front shop a docket such as is given here is filled in, the ordinary docket is on white paper, the urgent form of it being on pink paper, and having the word "Urgent" printed on it. The prescription-book has its alphabetical designation and the numerical number on each page, and the particulars on the docket are also entered so that in case of subsequent inquiry the full history of the prescription can be readily revealed. It seems a lot of trouble to take, but we were assured that the system works smoothly in practice, and has proved good. Stone's scales are used for dispensing, and there is a searching system of checking poisons in vogue. The pill-machines pull out from a wall recess away from the dispensing-counter like drawers, and pills are usually sent out silvered. A check-label is placed on each bottle, box, or pot sent out from the compounding department, as the example here given. Each assistant, of whom Mr. Wells has six, has his special label. The system Mr. Wells mentioned is not his own, but was adopted on the suggestion of an assistant, who learnt it from Grattan's, of Belfast, where he had been for some time. The arrangement of the pharmacy and stock-rooms is as methodical as the dispensing-checks. When stock is received a label is affixed to it filled in with particulars of whence it came, date, quantity, and cost. Not only is the stock labelled, but similar particulars are entered in a specially ruled stock-book, which is a great convenience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Call

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To

FECIT,
W.F.W.

when ordering fresh goods or checking charges. Mr. Wells puts up a great variety of proprietary articles, and exercises considerable originality in so doing. "A good, well-printed carton makes a proprietary article look well, and helps the sale considerably," is how Mr. Wells states the case. At the back of the premises Mr. Wells has an aërated - water factory. It is fitted with Riley's machinery, the factory as well as the machines being kept clean and polished. Each syphon is cleaned and polished on the outside, and especially the bottom, before being placed in stock, a detail which customers are not slow to appreciate. Nothing exasperates a good housewife more than having spotless napery spoilt by having a dirty syphon stood on it. The waters are happily named the "Wells," the trade-mark being the head of a well, with the letter S in place of the bucket. Dublin water is delightfully soft, but contains traces of peaty matter; these, however, are removed by passing through a Berkefeld filter. Of Mr Wells it is hardly necessary to say he knows probably more about the Irish Pharmacy Acts than anyone else. He was admitted a member of the Society, after passing the Licence examination, in 1877, the same year as Mr. Beggs. After a short experience of the Vice-Presidency, Mr. Wells became President in 1895, and remained in that position for two years. He took a prominent part in obtaining parliamentary consent to the 1890 amending Act, and his services to Irish pharmacy were recognised in 1898 by the presentation to him of a rose-leaf bowl and framed list of subscribers, which Mr. Wells considers his most cherished possessions.

Hospital Dispensing.

Anxious to see what hospital dispensing was like in Dublin, our representative took a recent opportunity of calling on Mr. Henry Hunt, pharmaceutical chemist at the Adelaide Hospital, and was unfortunate in finding Mr. Hunt away on a holiday-trip, but Mr. J. S. Ashe, L.P.S.I., did duty for him. Queen Victoria visited the hospital in 1900, and afterwards presented a signed portrait of herself which hangs on the staircase. A new wing is being built to the hospital destined to contain, among other improvements, a new operating-theatre and dispensary. The present compounding-room is large and exceedingly well kept. The bottles and fixtures shine again with polish, and everyone of the gold labels is perfect. Stock mixtures are few, most of the dispensing being extemporary. The favourite antiseptic at the Adelaide is mercuric iodide solution, boric-acid solution being used in cases where HgI_2 is not suitable. Dublin is well favoured in the matter of hospitals, several magnificent charities in that form existing. The Rotunda lying-in hospital at the end of Sackville Street was founded in 1751, contributions of 12,000*l.* being given by the government. The circular building from which the Rotunda hospital takes its name is a source of income from the entertainments which are held in it. Another well-known Dublin hospital is Sir Patrick Dun's. Sir Patrick was a physician who left all his money for the founding of the hospital, but was not entirely a friend of the pharmacist, as a prescription of his is on record in which the best claret, Chester ale, and chicken are ordered.

In this article we have confined ourselves to retail pharmacies, but Dublin has several wholesalers and manufacturers with wide reputation—*e.g.*, Messrs. Bewley & Draper, Leslie & Co., Hugh Moore & Alexander, and McMaster, Hodgson & Co.

Trade-Marks Applied For.

Objections to the registration of any of the undermentioned applications should be lodged with C. N. Dalton, Esq., C.B., Comptroller-General of Patents, Designs, and Trade-marks, at the Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned. The objection must be stated on Trade-marks Form J, cost 1*l.*, obtainable through any money-order office.

(*From the " Trade-marks Journal," July* 3, 1901.)

"Nurserets" (no claim for "Nurse"); for chemical substances. By the Dr. Williams Medicine Company, 46 Holborn Viaduct, London. 238,280.

"Fenning's Cooling Powders" and wording; for a medicine. By Alfred Fennings, Veness Villa, Victoria Road, Cowes, Isle of Wight. 235,784.

"Cinneverto"; for aerated beverages. By Grattan & Co. (Limited), 68 Great Victoria Street, Belfast. 238,327.

"Lijuso"; for aerated waters. By J. Robertson & Co., 38 York Place, Edinburgh. 238,517.

"Irenia"; for perfumery and toilet articles. By Robert Morrow, 25 Corn Market, Belfast. 237,336.

"Lullaby" and "Idolita"; for perfumery and toilet articles. By the Vinolia Company (Limited), Walden Crescent, London, N. 238,436, 238,702.

"Creamia" (no claim for "Creamy"); for perfumed soap. By Alphonse Soudain, 12 Rue Castiglione, Paris. 238,622.

(*From the " Trade-marks Journal," July* 10, 1901.)

"Vin Voguet," device and wording; for a medicated wine. By I. A. Voguet, 8 Avenue Victor Hugo, Paris. 236,116.

"Lapiline"; for chemical substances, and perfumery and toilet articles. By Williams, Davis, Brooks & Hinchman Sons, 26 East Congress Street, Detroit, U.S.A. 237,267, 237,268.

"Cascarin" (no claim for "Cascara" or "Cascar"); for chemical substances. By Dr. M. M. Leprince, 24 Rue Singer, Paris. 237,363.

"Quisisana"; for a tonic. By Thomas Cole & Co., 16 Oxford Terrace, Islington. 237,748.

"Good, it's Mason's!" and device; for herbs. By Newball & Mason, Hyson Green, Nottingham. 237,643.

"Castletyne"; for alcoholic flavouring essences. By W. H. Holmes & Sons, Portland Road, Newcastle-on-Tyne. 236,293.

"Manicola"; for toilet preparations, in Class 48. By Dan Davis & Co., 119 Railton Road, Herne Hill, London. 238,499.

"Hairozene"; for perfumery and toilet articles. By F. Wagner, 1a Friday Street, London. 238,589.

(*From the " Trade-marks Journal," July* 17, 1901.)

"Lapiline Witch-hazel" and "Lapiline Shampoo"; for a medicinal-preparation and toilet-preparation respectively. By Williams, Davis, Brooks & Hinchman, 26 East Congress Street, Detroit, U.S.A. 237,264, 237,265.

"Quinacol" (no claim for "Quina"); for chemical substances. By Allen & Hanburys (Limited), Plough Court, Lombard Street, E.C. 238,377.

"Circloid"; for chemical substances. By J. G. Robbins, 198 Romford Road, Stratford, London. 238,638.

Device of female figure; for chemical substances. By H. Mack, Kohlgasse 31, Ulm, Germany. 238,782.

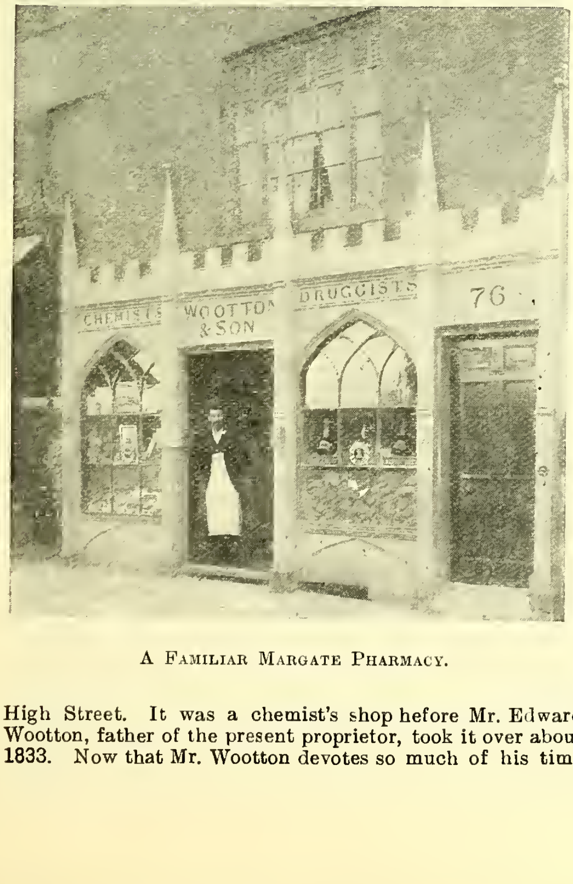
Pharmacy in Kent.

A Few Notes Gathered in a Ten Days' Run Round the South-East Coast.

At Margate, my headquarters for a few days, almost without exception, the pharmacies are smart and up to date, and trade-results evidently justify the opinion formed from the outside appearance. Although in advance of the commencement of the visitors' season, business was differently described as "satisfactory," "nothing to complain of," "quite satisfied so far," which means that, in spite of the number of pharmacies open, the trade gleaned is good. There is hardly room for another pharmacy in Margate, however, and one, or even two, in the opinion of the majority, would not be missed. Cutting is here as elsewhere, but prices are pretty fairly maintained all round. The one great advantage the Margate pharmacist holds over his *confrère* in various parts of the country is that the medical men of the town are content with their professional status, and in only one or two isolated instances do they dispense their own medicines.

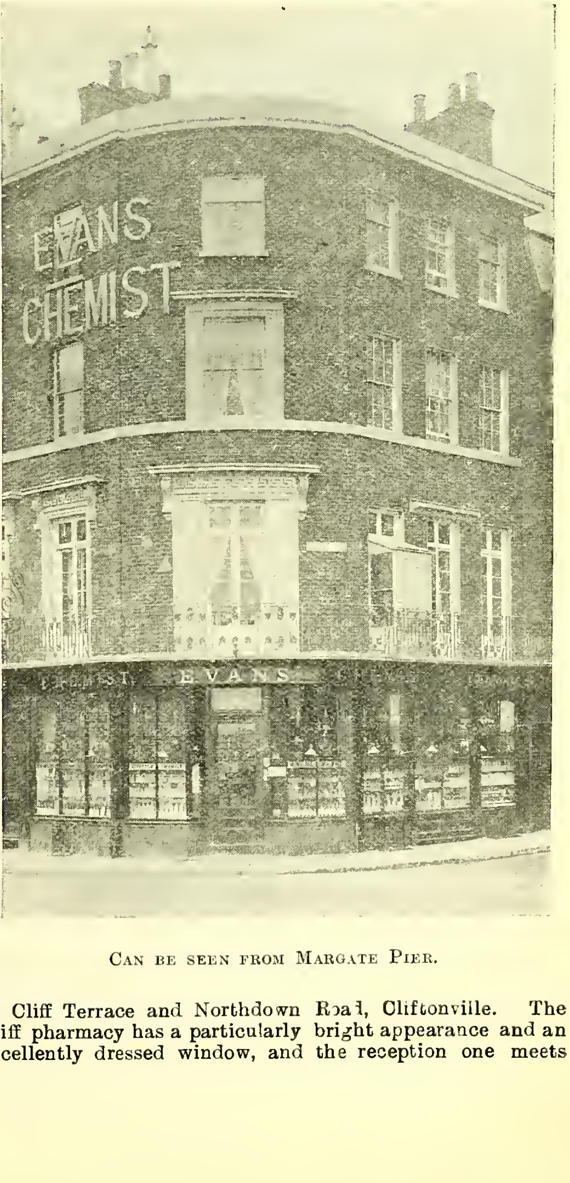
Want of trade-unity is as apparent as at other centres, and no association of chemists, either for social or trade-purposes, exists. The field for such a society is good—Ramsgate and Broadstairs are now connected with the town by electric tram, and Westgate, St Peters, and Birchington, are contiguous. Several pharmacists are in favour, almost desirous, of such an association, to meet periodically, and only the energetic pioneer is wanting. Excellent material is at hand to form, say, an Isle of Thanet Chemists' Association, which might meet to discuss subjects of general or pharmaceutical interest during the winter-months when business is, naturally, slack. As to pharmaceutical politics generally, this appears to be one of the few corners in the kingdom where the Draft Pharmacy Bill has not been discussed, and, honestly, pharmacists in Margate, with one or two exceptions, do not appear to trouble their heads about the matter.

Alderman E. S. Wootton is the *doyen* of Margate pharmacy. His shop, with its old-fashioned windows and artistic wooden front, is the most noticeable feature in the High Street. It was a chemist's shop before Mr. Edward Wootton, father of the present proprietor, took it over about 1833. Now that Mr. Wootton devotes so much of his time to the public service of the town, the business is largely in the hands of his partner, Mr. John Eastland. The pharmacy-interior is a quaint and attractive place, wonderful old jars and ointment and leech-pots are to be seen, the labels on which are mostly survivals of the hand painting days. Specimens of drugs are found here and there that have not been used for dispensing purposes within the recollection of Mr. Eastland for twenty-five years. In the old days of the paper-tax the back shop was in use as a reading-room, where the readers and politicians of the town gathered to read and discuss the newspapers of the day. Mr. Wootton's interests now lie away from pharmacy, although he is daily at the High Street. He has officiated twice as Mayor of the town, and as Alderman for fourteen years. He is also trustee of many of the local charities, a philanthropist, and a great worker in all matters having for their end the benefit of the working classes. While in keen sympathy with all measures ameliorating the social condition of the pharmacist and his assistants, he wonders what the present generation of chemists would think of working till 1 A.M. on Sunday morning, and opening shop again at 8 A.M. for the rest of the day, of having to powder ½ cwt. of saltpetre, resin, or sulphate of copper before opening the shop in the morning, and taking breakfast with fingers blistered from the operation. Dentistry also was practised, and nearly all the extracting for the town was done at Wootton's, thousands of ivories in the shop's cellars testifying the fact to this day.



A Familiar Margate Pharmacy.

Mr. D. T. Evans, whose handsome Margate pharmacy occupies one of the best sites on the front, has other shops at Cliff Terrace and Northdown Road, Cliftonville. The Cliff pharmacy has a particularly bright appearance and an excellently dressed window, and the reception one meets



Can be seen from Margate Pier.

from the genial manager, who must be now well known to many visitors, bears ont the good impression. Mr. Evans goes in for analyses and radiography with most satisfactory results. He thinks a chemists' association would be a good thing for the district, and would be inclined to take an active part in its formation if some of the senior chemists would inaugurate the movement.

Messrs. Baily & Co. have two shops in the town—one at Ethelbert Terrace, Cliftonville, and the other at Queen Street, near the harbour. They have recently removed from their old premises at Cliftonville to the very handsome and well-appointed pharmacy they now occupy fronting the sea near the baths. Baily's "Peculiar" lavender water is an old-established and well-known brand to resident and visitor, and there was a very attractive show of the perfume in the pharmacy-window when I visited it. Mr. Hewlett, the proprietor, has a quaint old bronze mortar discovered in removing from the old premises, and he would willingly show it to visiting chemists who are interested in such things.

Mr. W. S. Harvey, of the Market Place, has a most attractive pharmacy in a good position close to the Municipal buildings. Mr. Harvey favours the idea of a local association, and thinks there are matters, such as railway rates, and the purchase of proprietaries in large quantities for local distribution amongst pharmacists, which might be very profitably discussed and attended to by chemists in combination.

Mr. V. G. Woolls' business at the corner of Cecil Square is another of the older-established pharmacies in Margate. Photographic materials as a side-line, is an exceedingly strong point with Mr. Woolls, and he had a fine window-show of cameras and photo necessaries at the Cecil Square shop, and also at his handsome branch establishment Northdown Road, in the newer part of Cliftonville, where photography is rife in the holiday season.

A CORNER OF CECIL SQUARE.

Mr. S. K. Cadby, High Street, also has an old-established business in the High Street, and has been a snbscriber to THE CHEMIST AND DRUGGIST since its early days. He is, naturally, not in sympathy with cutting.

Mr. R. G. Laybourn, at the end of last year, took over the pharmacy carried on by Mr. Holmes in the High Street, and, although he had not yet seen a season at the popular seaport, he had no reason for dissatisfaction with his venture.

Messrs. Timothy White Company have opened a smart up-to-date shop in the High Street, and its appearance is an excellent lesson in shop-window dressing.

Mr. J. E. Vause, whose pharmacy adjoins Cecil Square, has been somewhat troubled about the scarcity of really good assistants, but as a practical man he had a little plan which was to come into operation the following week to overcome the difficulty. Although he only required one assistant he had engaged two, in the hope that one of them would prove to be the man required. Mr. Vause is in favour of a local organisation of some kind.

Mr. R. Pettman has a handsome corner pharmacy in the Northumberland Road. Mr. A. H. Brook's pharmacy is in a busy part of the High Street, somewhat away from the end most frequented by visitors, but Margate has a large and growing population apart from them. Mr. Reeve has a bright-looking pharmacy in Zion Place, not far away from the renowned "Fort," where the band plays during the season.

BROADSTAIRS.

Everybody who has spent a few days at this delightful little watering-place on the edge of the cliffs must some time, on his way to the Strand or the cliff walks, have passed the artistically-arranged pharmacy of Mr. Julian Horrell at one end of the main street. Mr. Horrell is a speciality pharmacist, and his "Skin Soap," "Effervescent Hop-tonic Saline," and "Collosine" for warts and corns, speak for themselves in their local repute. The pharmacy is in an excellent position, and is decorated with palms. The proprietor is a local public man, taking a great interest in the affairs of the town. He is chairman of the Sanitary Committee and deputy-chairman of the District Council.

A BROADSTAIRS INTERIOR.

Mr. G. M. Arrowsmith, 53 High Street, has a new and handsome shop, and is pushing his way in photographic materials, for which there is a good demand, as at Margate.

Mr. A. H. Hale's pharmacy in York Street is also the general post-office, and in the season there is a constant stream of visitors passing through it at certain hours of the day. The town is now connected with Margate and Ramsgate by the electric tramway, which will no doubt improve pharmaceutical business, and while three pharmacies would appear to be more than sufficient for the population, the opening-up of the surrounding district will no doubt soon remedy that fault.

RAMSGATE

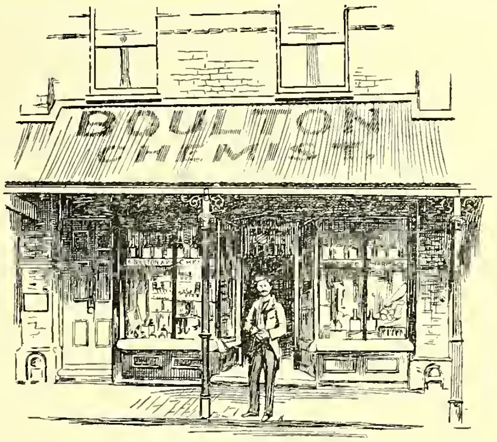
is a great fishing port, and the harbonr and adjacent docks all in front of one part of the town do not add to its charm as a seaside resort pure and simple. The place, notwithstanding, has its attractions, and the air is of the best in the south country. Ramsgate is a large and growing town, surprisingly so to the casual visitor, and although the pharmacists look to the summer season as their reaping time, there is a fair amount of business to be gleaned at all seasons of the year. Unfortunately for the chemist, however, the doctors, unlike their *confrères* at Margate, generally dispense their own medicines. Starting at the end of Harbour Street the first pharmacy one arrives at is that of Mr. F. Long, who also has a pharmacy at Dover. I noticed the photographic window at once, and learned that it proves a good side-line. The Timothy White Company have opened a well-stocked shop a little higher up on the same side. The pharmacy of Mr. S. Smith, 58 High Street is a fine and representative one. It is in a good position in the busy section of the street and close to the theatre. Mr. H. J. Pavey, 104 High Street, has a good corner business also in a busy part of the thoroughfare. Passing down the hill again and into Queen Street, Mr. E. Bailey's is the first shop. Mr. Bailey is an old Bell Scholar. He is not much trammelled by "Square" ideas, is a great believer in modern pushing methods of business, and an adept at photography, knowing its value as a side-line. Mr. Osborne, a little higher up in Queen Street, has a go-ahead business, well stocked and well looked after. Mr. W. F. Gadd's shop at 59 Queen Street is representative of a different class of a pharmacy, bordering as it does on the West Cliff and residential district. It is largely a dispensing establishment. In Queen Street, also, the Kent Co-operative Company have a large shop, and Mr. Weston has a neat-looking pharmacy in King Street. Upon the West Cliff, in Addington Street, is the well-known, quaint, half-century-old pharmacy of Mr. E. J. Fox, who, during the war-fever, made arrangements with a London agency for the despatch direct to him of war telegrams, which were instantly posted at the "War Office" pharmacy. Great times were experienced in Addington Street on Mafeking and Ladysmith and Pretoria days, and, subsequently, Mr. Fox had a public testimonial offered him by the Mayor and his fellow-townsmen in the shape of a handsome illuminated address.

Ramsgate "War Office."

Birchington and Westgate.

At Birchington, which lies again to the westward, about a mile and a half along the cliffs, Mr. G. F. Ashton, Station Road, is the only pharmacist; in fact, the village and its adjoining small watering-place of Birchington Bay could not support another, if I may put it in that way. Mr. Ashton is an artist and musician, and the members of his family are associated with musical circles in the Isle of Thanet.

Westgate is aristocratic in tendency. It lies about two miles westward from the centre of Margate town, and its red villas, standing high up on the chalk cliffs, can be easily viewed from almost any part of the sea-front at Margate. The pharmacies are in keeping with the town, and high-class business is done. Mr. Bessant's is a very attractive pharmacy, well lighted and excellently arranged. Mr. Boulton's pharmacy is in the business street, facing the railway. The shop is shaded by a verandah, a very necessary adjunct in this sunny and bracing corner of Kent, and the bright fittings and smart appearance gratefully combined with the cool appearance on the sun-lit day of our visit. Mr. Woolls, of Margate, has recently opened a branch establishment here.



Faces the Railway.

Dover,

as a business town, trading port, watering-place, fortified garrison town, and terminus of two great railway companies, has a unique character. It is a busy place even before the summer season commences, but its crowded thoroughfares are relieved from monotony by the red coats of the soldiery from the forts and the Castle. One of the features of everyday life is the arrival and departure of the mail-boats for Calais and Ostend. There is a small French colony and a large seafaring population. Pharmacy appears to be in a fairly good condition, although "cutting" finds a place. The apathy of chemists as regards pharmaceutical politics is less marked here than in other places on the Kent coast, but there is no noticeable enthusiasm, and when the quarterly meeting of the Dover Chemists' Association comes round it is occasionally found expedient to postpone it. The pharmacies generally are very up-to-date, although, as is usual in an historical town, some of them are old-fashioned from an outside view.

Mr. R. M. Ewell now conducts the handsome pharmacy in Townwall Street, until recently carried on by Mr. Alexander Bottle (late Vice-President of the Pharmaceutical Society), and with him in the pharmacy is his son, Mr. E. W. Ewell, an old Students' Corner prizeman. Mr. Ewell is secretary of the Dover Association, and he somewhat deplored the want of unity amongst chemists generally. His pharmacy is representative of a high-class provincial chemist's business.

Mr. W. J. Barnes, of 52 Biggin Street, is the Mayor of Dover, and in that capacity was, a little while back, received by the King. He is a keen pharmacist, with a good business in the busiest part of the town, and is imbued with a strong interest in all pharmaceutical matters, and objects to The Chemist and Druggist because it does not run so closely with Bloomsbury Square as he would like.

The pharmacy of Messrs. Hambrook & Son dates from the year 1800, and is one of the oldest on the South Coast. It was figured in these pages two years ago. It is in Strond Street, facing the harbour, and is no longer an old-fashioned shop, but a very smart modern pharmacy. Its destiny is now in the hands of Mr. E. O. Hambrook, although Mr. Hambrook, senior, still takes an active interest in its business.

Mr. F. Long's spacious pharmacy at the corner of New Bridge and Townwall Street has one of the finest positions in the town, being adjacent to the sea-promenade, the large hotels, and the residences of a number of the chief medical and surgical consultants. Mr. E. Thompson, whose pharmacy is honoured by the display of the Royal Arms, has just removed his premises from King Street to 20 Woolcomber Street, where he has a bright, lofty corner shop, close to the promenade, the castle, and some of the largest hotels. Mr. Thompson's is a very old-established pharmacy, and the Royal Arms were granted, in 1852, to his predecessor in the business, Mr. Elkington, from whom he took it over.

Mr. J. F. Brown, whose handsome corner-pharmacy in Cannon Street we illustrated a few years ago, is well-known to pharmacists outside Dover. His premises lie in the centre of the town, in an excellent position for the visitor and the resident. He has wide and liberal views on pharmaceutical subjects, but joins in the general opinion in deploring the universal habit of cutting prices. Mr. A. L. Thompson and Mr. J. M. Corfe, Snargate Street, both have business-like looking pharmacies, in keeping with what is probably the most crowded thoroughfare in the town. The shops of Mr. T. M. Ralph, 21 High Street, and Mr. A. C. Kay, 26 High Street, are smart and up-to-date looking, and the same may be said of the pharmacy of the South Coast Drug-stores in the London Road, under the managership of Mr. W. E. Hall. The Timothy White Company have two handsome pharmacies —one in the centre of the town and one at Buckland. Mr. G. F. Forster (late energetic Secretary of the Public and Poor-law Dispensers' Association of London) has now taken over the business of his father, who died recently, and he is engaged pushing business along there in the same characteristic fashion in which he made things hum in regard to the Dispensers' Association. The shop-front has been renewed, electric light has been installed, and Mr. Forster has put down one of Barnett & Foster's No. 1 prize-medal soda-water machines, which he is running with an electric motor. This is interesting, as Mr. Forster estimates that the working of the machine costs him 4*d.* per hour, and he can fill four to five dozen syphons single-handed in that time —more power to his elbow.

FOLKESTONE.

When I visited this beautiful south-coast resort, there was a lull in business, generally, before the commencement of the visitors' season. Pharmacists here assume a high standard of appearance, efficiency, and brightness, in keeping with the beauty of the town; especially is this so in the West Cliff district, where the streets, residences, and shops are all of high-class order. There is a very fair amount of good dispensing business done in this district, but in the lower town medical men make their own medicines up, and the chemist suffers in consequence. Messrs. King & Hall have two fine pharmacies—one the West Cliff Pharmacy, and the other in Tontine Street, in the lower town, under the managership of Mr. Balmford. Mr. W. Ransford's pharmacy in the Sandgate Road is one of the finest along the south coast, and it is run close in appointment and general finish by those of Mr. J. W. Stainer and Mr. F. G. Curtis, in the same road. Mr. C. J. Taylor has a good business in the Dover Road, and Mr. A. G. Riley has taken over the business of Mr. Lea at 4 Harbour Street. Mr. J. Knight's pharmacy in Rendezvous Street is splendidly placed, being right in the centre of some of the finest shops in Folkestone. The Timothy White Company have a smart shop in Tontine Street, managed by Mr. E. G. Andrews, and Day's Drug-stores have recently opened in the old-fashioned but busy High Street.

CANTERBURY.

A visit to Canterbury on a fine June morning is one of the most delightful happenings that could possibly occur to anyone in search of change. Its ancient buildings, the fine grey pile of the cathedral, the magnificent trees, the cool and shadowed lawns, the historic Dane John, and the recollections of literature forced upon one's imagination, all combine to distract attention from purely business matters. Although the influence of the Church is felt in trade, as in all cathedral towns, it does not obtrude itself to the dissatisfaction of the pharmacist; in fact, the enormous number of visitors, particularly Americans, attracted to the cathedral by its historical surroundings, brings grist to the mill at a season which might otherwise prove quiet. A visit to Canterbury pharmacists leaves a pleasant impression. Messrs. Bing & Sons' pharmacy, St. George's Street, is as well known to the men of Kent as to visitors, and the height and depth of the shop, and its well-arranged departments, give it the exclusive air of the prosperous and old-established. A visit to Mr. E. R. Biggleston, of 11 Mercery Lane, the manufacturer of the famous "Wood Violet" and other perfumes, takes one into an odorous and cool retreat. The stock of perfumes is interesting, the diplomas obtained at international exhibitions are many and valuable to the eye of an advertiser, and the courteous reception of the proprietor, and the gentle spray of odour which speeds the parting visitor, are pleasant and refreshing. Mr. R. Croft, 1 The Parade, who has a good corner pharmacy in the main street, is a follower of the photographic side-line, and a keen pharmacist. He greets one with dispensing and trade problems, equally interesting to himself and the trade. Messrs. Lander & Smith, of the Medical Hall, High Street (which we illustrated some time back), are chemists and scientists of a high order. Mr. Lander is in charge of the local branch of the Meteorological Society, and, in an unassuming way, shows one wonderful gauges and barometers, some of his own construction. He is also an expert radiographer, and demonstrates the Marconi system by despatching a message by means of his *x*-ray coil, and a receiver (also of his own construction) at the other end of the consulting-room. He has met with success, in conjunction with local members of the medical profession, in the treatment of lupus by *x*-rays, and has gone in also for colour and tele-photography. The pharmacy is a large double fronted one, and Mr. Lander and his partner do a good business in photographic materials and optical work, in addition to ordinary pharmacy.

Mr. W. Mount, 2 Palace Street, has a fine shop close to the cathedral, and Messrs. Walker & Harris have well-stocked premises, with tasteful window show, right opposite the cathedral gates in Sun Street. On the other side of the main street Mr. W. H. Paine has a handsome double-fronted pharmacy, in St. Margaret Street, and one gets a courteous reception and hears many things of interest in a half-hour spent in his attractive shop. Mr. Walter Reeve, of St. Peter Street, has one of the oldest-established businesses in Canterbury, and he pushes a speciality of high repute in the district, but he frankly says that modern pharmacy is not a patch on the business of the old days. Even the complaints of the chemist here are in keeping with the atmosphere of the delightful old city, which one leaves with regret.

American Notes.

OINTMENT-JAR MAKERS UNITE.—At a meeting of ointment-jar manufactorers of the United States, held at Pittsburg on June 27, a national organisation was formed for the purpose of preventing price-cutting and maintaining uniform rates. All the principal plants of the country are said to be in the combine.

A SLUMP IN SODA PRICES.—The Church & Dwight Company of New York have reduced the price of their Arm and Hammer brand bicarbonate of soda in 1-lb. packages by over 50 per cent., which fact has caused considerable excitement in soda circles. It had previously sold at $3 per case to the jobbers, and at 10c. to the retail trade, but is now going at $1.50 to the jobbers, and retailing at 5c. per package. This "cut" affects only four States in the Union—Tennessee, Georgia, and the two Carolinas—the same rates as previously ruled obtaining in both jobbing and retail circles in all the remainder of the States. It is generally believed here that the opening of war in these four States will result in a very short time in a fight that will affect the whole of the United States.

QUICKSILVER EXPORTS.—The exports of quicksilver from all United States ports for the five months ending May 31 are reported by the Bureau of Statistics at 402,046 lbs., against 451,041 lbs. for the corresponding period in 1900; a decrease of 48,995 lbs., or 10·9 per cent. this year. The quicksilver receipts at San Francisco in May were light, 1,637 flasks only. For the five months ending May 31 the receipts were 9,722 flasks, which compares with 9,453 for the corresponding period in 1900, and 9,881 in 1899. These receipts do not include shipments from the mines direct to buyers. The shipments of quicksilver by water for the five months were: Korea, 12 flasks; Central America, 502; Mexico, 1,734; British Columbia, 20; New York, 35; total, 2,303 flasks. This compares with 4,166 flasks last year.

CONVERSATION which took place between a customer and Mr. W. M. Gowen, Amesbury, Mass. Irishman: "Do yez hove oilum?" Druggist: "Alum?" Irishman: "Yis." Druggist: "Do you want the powdered?" Irishman: "Yis, O'i want a lump ov it."—*Spatula.*

Spanish Pharmacy.

Daily Notes of a Holiday Trip by an Anglo-Parisian Pharmacist.

The Giralda (Seville).

SPAIN is an interesting country. Each of its old provinces has its own life and habits, and pharmaceutical and other characteristics vary, for the country has never been shaken down into a uniform whole.

Having learned at Perpignan (where I stayed for a few days before crossing from France) that the little Spanish village of Port-Bou now boasted a "farmaceutico," I determined to make this my first halting place in my trip across the French frontier. As soon as I found myself in Port-Bou station I wended my way down the narrow straggling street, keeping a sharp look-out for anything that looked like a pharmacy. The word "Farmacia" over a glazed door met my eye, but I sought in vain for coloured carboys, window-dummies, a red lamp, or any other outward sign of the sale of medicaments. "Perhaps this is the back door, but I'll ask for the proprietor," I mused, and, mustering up courage and my best colloquial Spanish, entered and made the necessary inquiry. A good-looking, fair-bearded young fellow (quite the opposite of my preconceived ideas of the swarthy clean-shaved Spaniard) stepped forward, and my doubts and hesitations quickly disappeared before his fraternal welcome. Whether it was my mention of the *C. & D.*, or the ties of international confraternity, Catalan hospitality, or native courtesy, I know not, but in spite of my limited Spanish and his French I found Don Francisco Budalles the most charming of hosts. And I found by subsequent experience that this was a fairly typical Spanish pharmacy, so far as the smaller towns are concerned. Inside, the same simplicity and absence of the mercantile tendency prevailed as outside, the shelves around the walls bore the usual shop-rounds and jars, and a small counter or desk with a few bent-wood chairs completed the shop-furniture.

The Principal Street in Barcelona.

A druggist's shop forms the corner on the left.

"Where are the proprietary articles?" I inquired; for the absence of these familiar objects aroused my curiosity. The pharmacist smiled, and, leading me into the room behind the shop, indicated a glazed cupboard containing a selection of the usual French proprietaries and a few bottles labelled in English, such as King's citrate of magnesia, Scott's emulsion, and Mother Seigel's syrup or "Tisane des Shakers." My host explained that he did not push patents, and I believe he expressed in this matter the opinion of a large number of his colleagues. Next to the patents cupboards was a good-sized book-case of pharmaceutical literature; here, again, the French element predominated. I noted Dorvault's "L'Officine" and the Spanish Pharmacopœia. The last edition, I was told, dated from 1884.

Chemical analyses form an important part of the occupation of a frontier pharmacist. The custom-houses at Port-Bou and Barcelona are the most important in Spain (the former for the imports by railway, the latter for sea-borne goods). The chemicals which pass through Port-Bou on their way to Barcelona (the commercial and industrial capital of Spain, and the home of the wholesale drug-trade) are mostly of German origin. The custom-house officials often need analyses to decide questions of purity, &c. Señor Budalles had quite a little laboratory, where we spent some time discussing apparatus. He was a graduate of Barcelona University. Most

SPANISH PHARMACISTS

take their diploma there or at Madrid; Santiago and Granada also boast Faculties of Pharmacy, but they are of much less importance. The licence-fee is about 12*l.*, the Doctorate (which simply confers a title, like the British Major examination) costs some 40*l.*, but fees are remitted in some cases. I saw my host's diploma, signed by the Minister of Fomento (Commerce and Industry), hanging on the walls of his dining-room. Noticing some photos, evidently of students, I inquired if these were his comrades at the Faculty. One was, in fact, a pharmacist, the other a young doctor or lawyer. "This system of the Faculties existing side by side at the University, on an equal footing, so to speak; and the fact that there are only four Faculties of Pharmacy in all Spain, must tend towards comradeship," I remarked; and my host acquiesced. I understood that in Gerona province, at any rate, cutting had not yet broken the bonds of fellowship. He was eloquent (as the younger generation of Spanish pharmacists usually seem to be) as to the advantages that might accrue from the new system of "Colegiacion," or professional guilds (described in the *C. & D.* some time ago, under the title "Glimpses of Spanish Pharmacy"). I even learnt that a system of mutual trade-protection existed for pharmacists, each one reporting to the "Colegio" cases of bad debts, and his colleagues being thus privately put on their guard.

These and many kindred matters we discussed "over the walnuts and the wine," or, rather, over their Spanish equivalents, the raisins and the oranges, with the blackest of coffee and the inevitable cigarette, which in Spain does not necessarily await the actual close of the meal to make its appearance.

BUSTLING BARCELONA

was my next stage. It is an impressive city with its busy port, its crowded ramblas or boulevards, and its energetic pushing Catalan population. Here I expected to find something very special in the pharmaceutical way, particularly as it is the home of the wholesale trade in Spain. I was disappointed. Pharmacy, in the true sense of the word, seemed to keep itself strictly professional. "Pharmacy" over the entrance was usually conspicuous, as also the proprietor's name written diagonally across the glass door The simplicity I had already remarked at Port Bou characterised the rest of the establishment. Even if any extra frontage was available, it was frequently not used for show-purposes; but filled in with glass and ornamented with gilt inscriptions on a black ground, announcing whatever happened to be the speciality of the establishment, analysis or emulsion, bacteriology or toothache remedies. I noticed (in the Calle de Comercio) the pharmacy where the *Restaurador Farmaceutico* is published, as modest an establishment as the rest.

The "side-lines" such as perfumes, soap, &c., which often make up the great part of the English chemists' display, are here relegated to the "drogueria," but in many cases the farmacia and drogueria (although they have the legally separate entrances) stand side by side and both belong to the same proprietor. A very good selection of goods is often visible in the drogueria window. In the photograph which we reproduce of the principal rambla of Barcelona, the drogueria or drug-store of Hijos de José Vidal & Ribas, is a corner shop on the left-hand side.

The few herbalists I observed conspicuously displayed a notice to the effect that "this establishment in one of those specially excepted by the recent regulation." An "Herbalist to the Royal Family" (on the Rambla) draws attention to the fact that he sells leeches by means of a coloured statuette of a half-nude child in tears, with several of the black creatures on his neck and arms. Bandagists are another class allied to pharmacy, and have beautifully-painted signs, some being fine works of art; I have seen worse representations of the human figure in the Paris Salon than the bandaged lady and gentleman which adorn a bandagist's shop-front near the Café Suizo (Rambla). A tedious journey of fifteen hours "express"—Spanish railways are mostly single lines, and the country is terribly difficult and mountainous—took me to

Royal Madrid.

Here every style of pharmacy may be studied—the simplicity of the Spanish establishment already described, the severely professional but more conspicuous French frontage with carving and carboys, the officine that fills its windows with French, English, German, and American specialities (the foreigner is catered for in Madrid, especially round the Puerta del Sol), or with Spanish tonics and pulmonary remedies. Sometimes one may see—on the Plaza Santa Ana, for example—a very up-to-date, not to say commercial, pharmacy, opposite one of the most old-fashioned type. I saw one of the military pharmacies about which so much has been said. It was a large place, with little window-show. These establishments are supposed to supply military men and their families only, but pharmacists complain that their operations are much wider. In the street where my hotel was situated one pharmacy pushed a vermifuge, and a whole window was full of a loathsome collection of tapeworms in bottles of alcohol, and on the other side of the street was a very neat little pharmacy, where the ceiling was adorned with gay, painted groups of cupids hard at work with retort and blowpipe, crucible, furnace, and all the paraphernalia of chemical industry.

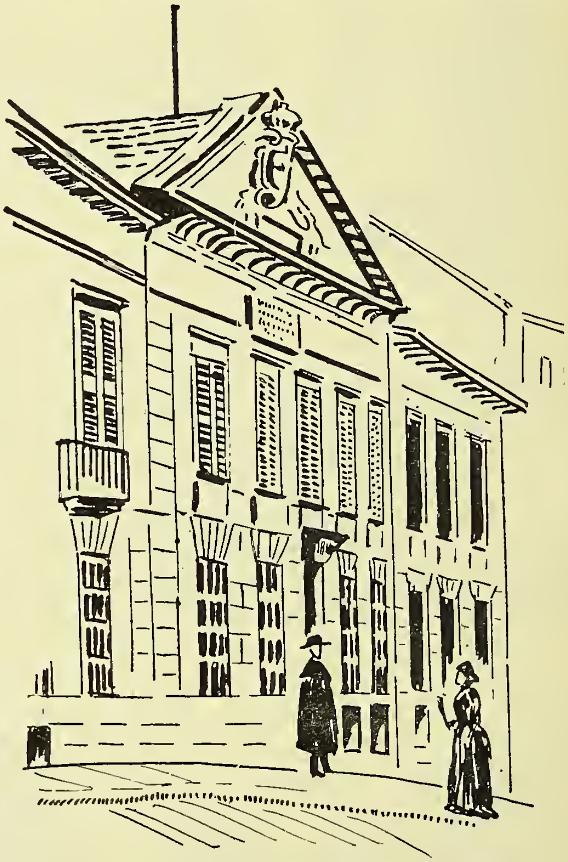
The Madrid droguerias did not attract my notice so much as those of Barcelona, but the perfumeries were neat and numerous; sometimes the two trades were combined, as in a corner shop in the Belosticalle, where Atkinson's goods were conspicuous.

The Faculty of Pharmacy

is situated in the Calle de Farmacia, a quiet street leading off the bustling thoroughfare of the Hortaleza. Like the Madrid Faculty of Medicine it has a handsome old-fashioned frontage of red brick, with stone dressings. The Royal crown surmounts the inscription—

REGI FERDINANDO VII
OPTIMO SCIENTARIUM PROTECTORE
IN ANIMI GRATI TESTIMONIUM
ET PERPETUAM TANTI REGIS MEMORIAM
PHARMACEUTICI HISPANI
HAS ÆDES ERUDITIONI PUBLICÆ EREXERE
ANNO MDCCCXX.

It is proposed to erect a handsome new university building in the fashionable quarter of Madrid, with a frontage on the Botanic Garden, a site of some 400,000 square feet being available near the street of Alfonso XII. It remains to be seen whether the necessary funds are forthcoming, but if the scheme be carried out there is little doubt that the pharmacists will have their place there. The professorial staff at the Faculty of Pharmacy has undergone some slight changes. The chair of mineralogy and zoology, left vacant by the death of Professor Macho Velado, is now occupied by Professor German Cerezo, while Professor Rodriguez Carracido has taken the chair of biological chemistry, his former post as professor of organic chemistry being filled by Don Baldomero Bonet. Professor Garagarza is still Dean of the Faculty, this gentleman (like his colleagues Professor Gabriel de la Puerta (inorganic chemistry), Gomez y Pamo (materia medica), and Olmedilla, is a member of the Royal Academy of Medicine. The chair of pharmacy and sanitary legislation is occupied by Don Ricardo de Sadaba, that of botany by D. Blas Lazardo; Professor Casana, Fages, and Gomez Velasco complete the staff. Two of the professors—Señores Carracido and de la Puerta—are members of the Academy of Sciences.



Faculty of Pharmacy, Madrid.

The Pharmacopœia Revision Committee

has as chairman, the Marquis of Guadalerzas, President of the Royal Academy of Medicine, and consists of three doctors—Señores Mariani, Hergueta, and Iglesias y Dias

(Perpetual Secretary of the Academy of Medicine)—and four pharmacists. One of these is the head of the Royal Pharmacy of Madrid—Don José de Pontés y Rosales; the other three are professors at the Faculty—viz., Señores Gomez Pamo, Olmedilla, and de la Puerta, the last-named acting as Secretary to the Committee.

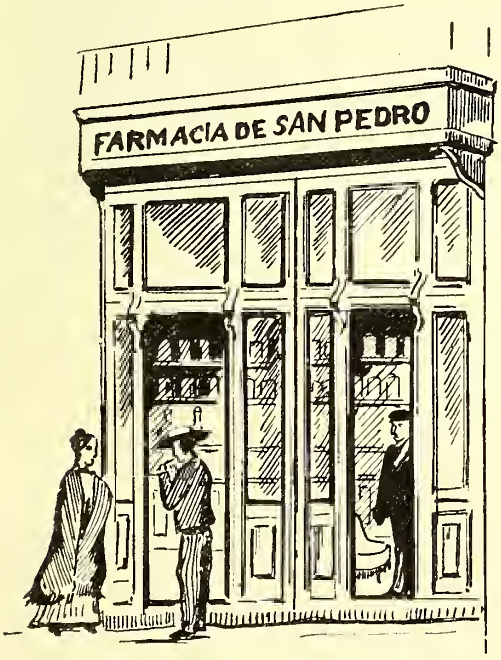
The Colegio, or official syndicate of pharmacists, of the province of Madrid has some three hundred duly qualified members. About half of these actually keep open shop in the Spanish metropolis, the rest being suburban or rural practitioners, retired men, &c. Since 1860 the number of pharmacists in Madrid has increased from 100 to 150. The doctors of the city are supposed to number about a thousand, and there are 107 veterinary surgeons, besides numerous bloodletters, &c. It is a "far cry"

From Madrid to Cordova,

but when the tedious journey is made by night one feels as if one had woke up in another world. For Cordova is as essentially ancient and Oriental as Madrid is modern and Parisian. Holding as I do the theory that the Moorish conquerors of Spain were the true originators of European pharmacy, I felt that I was treading upon sacred soil as I entered the immense and superb mosque, among whose two hundred columns Abulcasis, Abenzoar, Averrhoes (possibly even Avicenna) and their pupils worshipped so many centuries ago. Here are the orange-groves, the narrow streets, the ancient bridge, the Moorish gateways of the old caliphate of Mohammedan Spain, the mighty city whence students carried their knowledge of the healing art all over Europe. Quiet and deserted to-day; this very calm aids the imagination, and one re-peoples the pleasant gardens with their crowds of turbaned doctors and polyglot students in the narrow thoroughfares, with the jostling busy traders of "the golden prime" of the good Abderame III., when England was an insignificant heptarchy and London a collection of Thames-side hovels.

From Cordova to Seville the Beautiful

is but a short run. Here everything is delightfully Spanish—I might even say Andalusian—for this city of low white Oriental houses is very unlike the wide streets of six-storeyed flats of northern Spain. The principal shopping street, the Sierpes, is about as wide as Paternoster Row—it was here that I counted, in a very neat pharmacy, five different emulsions of cod-liver oil. Chest complaints and anemia seem the leading sources of pharmaceutical enterprise all over Spain, especially at Seville. The prevalence of the former somewhat puzzled me here; it seemed natural enough at Madrid, where I had experienced the glacial wind sweeping down from the Guadarrama Mountains, but these sunny Andalusian valleys, hotter than Nice, would seem a consumptive's paradise. The explanation I received was that the "patio" system was in a great measure responsible. In Andalusia the houses are low, and the living rooms stand round a central paved court, a gallery running round the same court giving access to the first-floor apartments. This patio, or central court, is often a delightful place, with shrubs and plants, a central fountain, rocking chairs, &c; and in the summer time an awning is placed over the top, and the family live, so to speak, in the open air. But to reduce the unbearable heat the doors and windows around the patio are opened in such a fashion as to produce cool and dangerous draughts.



A Seville Pharmacy.

The pharmacies, like everything else in Seville, are characteristically Spanish. The one sketched is rather a high-class and large establishment, and has a corner site and frontage, which in any other country would make it visible a long way off, but which, it will be noticed, is entirely unutilised. It is true that at Seville window-show is the exception, for the simple reason that many of the shops have no windows at all, the mild winter rendering protection against the weather an unnecessary luxury. The pharmacist leaves his glazed doors wide open; the *drogueria* is often open to the street, the shutters closing it up at night. Very characteristic are the numerous *droguerias* where one can buy many of the lines which in England are stocked by the Italian warehouseman as well as the usual raw drugs and chemicals. The interior arrangements are as simple as the frontage. The whole of the back of the shop (except where the door communicates with the *patio* or with the shop-parlour) is one vast series of drawers uniformly labelled; in front a lad in a white blouse stands behind a counter, and certain goods hang down from the ceiling and walls. The general effect is that of a shop of days gone by.

From Seville I returned to Madrid, and on my way back to the French frontier stopped at Burgos, a city full of relics of the Middle Ages and Renaissance, but there is nothing mediæval about Burgos pharmacy. The only *officine* I carefully examined near the Plaza Mayor showed

The King's Hospital, Burgos.

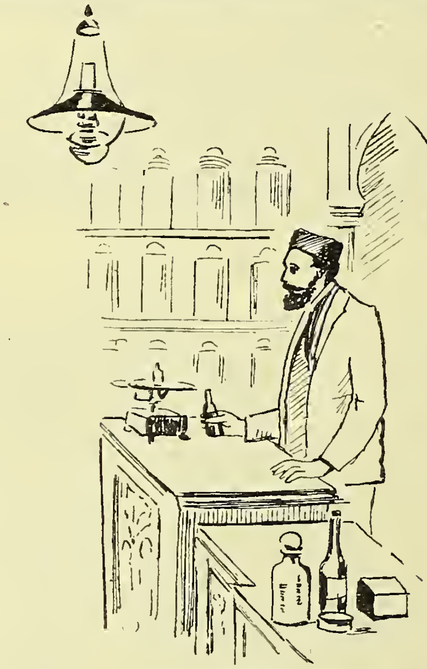
a choice of put-up goods such as I had rarely seen elsewhere in Spain. I had heard that in this province, if not in the town itself, the "upstairs" pharmacy (which some high-toned people advocate as a check to commercialisation), existed, but I cannot say I saw it myself.

Flourishing Bilbao, the Biscay port, on the banks of the orange-coloured waters of the Nervion river, was my final halt. Pharmacy here was much as at Madrid, while the drogueria and perfumery element was also very conspicuous. The Gran Via, the main thoroughfare of modern Bilbao (the city, like Barcelona and San Sebastian, has both a quaint narrow-streeted old town and a new town, whose regular symmetrical blocks would gladden the soul of a Chicago visitor), boasts an "English pharmacy," where French specialities are largely shown. I noticed in the same street several good shows of perfumery drugs and photographic sundries. English, French, German, and Spanish goods are all represented, and I saw no town outside Madrid where they were better shown. The Bilbaino and the Barcelonese are the business men of Spain. I had expected to find more British characteristics at a port trading so much with England, but the only place where the Englishman seemed very much appealed to was on the road to Portugalete—*i.e.*, the six miles thoroughfare from Bilbao to the sea, along the riverside. Here the broad Saxon signs of "Bumboatman," "Beer and Spirits," "Post Office," and "Ship Chandler," were frequent, and even "English Doctor" appeared in letters a foot or two long on one balcony. But the pharmacy hard by was guiltless of any bold advertisement, professional or unprofessional, to attract the British or American visitor.

The Hours of Business

are terribly long in Spain. When I was in Madrid, the *ultramarinos* were carrying on a noisy agitation in favour of closing on Sunday afternoons. I fancy the noble art of *tauromachy* had more to do with it than anxiety for church-membership, for the bull-fighting season had just begun, and Sunday afternoon is the great weekly slaughter. Possibly the pharmacist's education and refinement make him less of an *aficionado* of the Plaza de Toros; in any case, he still works seven days a week, and for how many hours I should not like to say. I saw no pharmacies open when I came out of the theatre at Madrid or Barcelona; but in Spain the performance begins at 9 P.M. and ends about 1 A.M. At Seville I saw pharmacies open after midnight. The Madrid Colegio passed a resolution a few months ago that 10 in winter and 11 in summer were suitable closing-hours, and that the hours of opening should not be earlier than 6 or 7 A.M. A proposition to shut at 9 in winter and 10 in summer was outvoted as impracticable. On the other hand, the midday *siesta* would give an hour or two of respite, and in the South and in summer-time little is done between 1 and 3 P.M.

Another bugbear of Spanish pharmacy is "intrusion," as illegal practice of pharmacy is termed. Laws exist, but, so long as magistrates apply them so leniently, *colegios*, &c., will shrink from incurring legal expenses. A few recent cases of offence are worth noting. A quack selling "electric balsam" from a vehicle was convicted, but a 1*l.* fine would hardly prevent him recommencing. An assistant at a *drogueria* sold a girl oxalic acid or salt of lemons (he was not sure which, he told the magistrate) instead of the fig-salt she asked for as a purgative. He was acquitted, though the girl died. The working-classes prefer to buy drugs at these establishments a few pence cheaper than at a pharmacy, and the pharmacists suffer accordingly—and occasionally the public. Not that pharmacists are themselves exempt from mistakes, or doctors from careless or illegible prescription-writing. A recent dispensing-error deserves to be recorded. It was due to the fatal similarity of the words *granos* and *gramos*. A doctor prescribed 12 gr. of Dover's powder for a child, and a pharmacist's wife gave 12 grammes. The child died. But no one was punished. Many other questions about Spanish pharmacy might be touched upon, such as the Barcelona assistant's idea of an "Assistant's diploma," the entry of lady students into the Faculty of Pharmacy, the Municipal Laboratory of Madrid, and the Barcelona Colegio's offer of medals for the best essays on certain practical details of pharmacy; but these may be left to more competent pens. Educated and socially respected, but usually hard-working, and unburdened with this world's goods; struggling against competition, often of an illegal nature; anxious for more protection, and, if possible, for limitation—such I found the Spanish pharmacist.



At the Receipt of Custom.

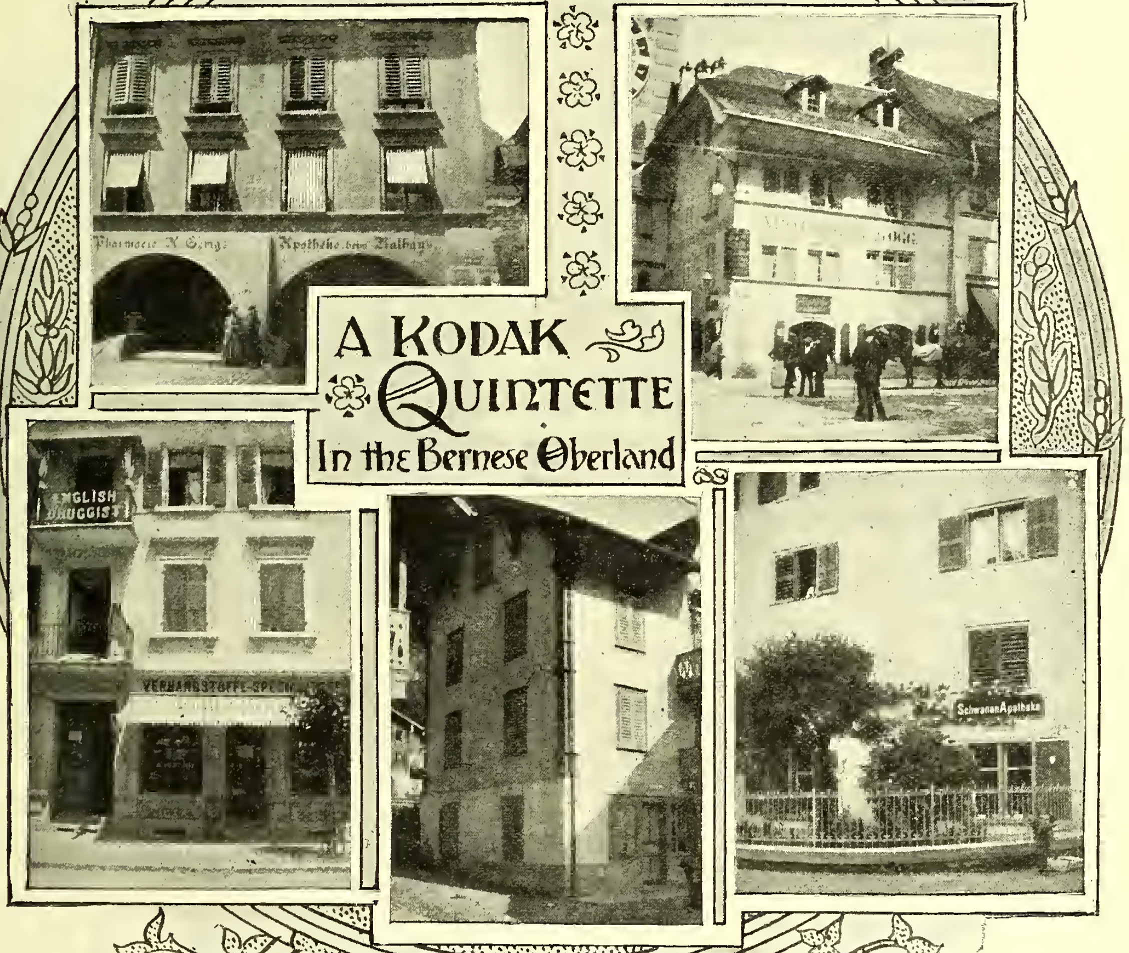
Citronella Oil.

By Ernest J. Parry, B.Sc., F.I.C.

Apart from the general analysis of oil of citronella, with a view to determining its purity, the great bulk of the oil sold on the London market is examined in order that it may be certified as passing the so-called "Schimmel's test.' Pure oils of commerce give somewhat different results with this test, some being quite soluble in 80-per-cent. alcohol, and others although quite soluble in 3 or 4 volumes of the alcohol, become slightly turbid on addition of 10 volumes of the solvent. Occasionally one has to decide as to what constitutes "slight turbidity" in this respect. In general I find that the citronella oils (that is, the pure oils), with low sp. gr. are those which give a perfectly clear solution, whilst those with a high sp. gr. often give a slight turbidity when the full 10 volumes of alcohol are added. In cases where any possible doubt can arise as to what is the limit that this turbidity may assume, without the oil failing to pass the test, the use of alcohol of slightly higher strength will be found of service. With pure oils the turbidity almost, if not quite, disappears when the alcohol is increased to 81–83 per cent., whilst if even very small quantities of petroleum are present, there is practically no change by using alcohol up to 85-per-cent. strength. It has been shown that the high-gravity oils usually contain more methyl-eugenol than the low-gravity samples; but this would not account for the lower solubility in alcohol. It is probable that this is due to the greater preponderance of sesquiterpene in the high-gravity oils.

Professor Modica finds that metallic selenium is without effect on frogs and rabbits, but selenous and selenic acids given in the form of sodium salts are very poisonous.

SWISS PHARMACIES



A KODAK QUINTETTE

In the Bernese Oberland

OF all the months of the year June offers the greatest attractions to the tourist in Switzerland. The lover of nature will then see the flowers in their greatest perfection, the pastures and wooded hills in their freshest green, and the snow mountains in their purest dress. In June one can be pretty sure of a hearty welcome and good accommodation at the hotels, whereas in the later months this is sometimes difficult to obtain, and the trains, boats, and diligences are often crowded to suffocation. The present holiday of three weeks was divided into three sections, Lucerne being made the centre for the first week, Engelberg for the second, and Grindelwald for the third. Among the excursions from Lucerne were included the ascent of the Bürgenstock (3,715 feet), the Rigi (5,900 feet), and Mount Pilatus (6,995 feet). Each of these may be easily compassed in a day by a moderately good walker; in fact, the mountain air is so invigorating that one rarely feels any sense of fatigue while walking in Switzerland. For those, however, who are either incapable or undesirous of walking, the enterprising Swiss have provided mountain-railways to the top of these, and many other famous points of view throughout the country. The hungry and thirsty are also well provided for, and every inducement offered for spending one or more nights on the summits, the hotels in some cases having as many as five hundred beds.

The second week was spent in Engelberg, a picturesque village situated in a valley 3,340 feet above the sea-level, through which flows the little river Aa. It is reached by electric railway from Stansstad, one of the steamboat stations on the lake of Lucerne. At Engelberg a cold snap set in on

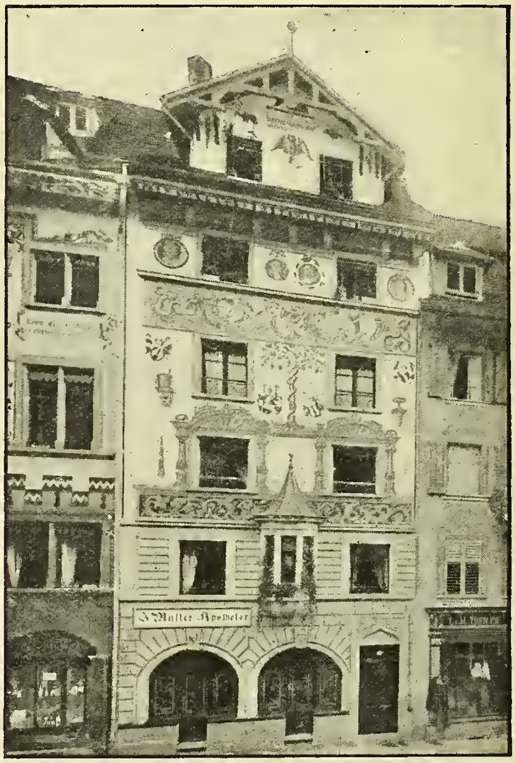
June 14, and rain fell for nearly a week, with only brief intervals of sunshine. On the hillsides above the valley the rain turned to snow, and those who climbed 2,000 feet or more above the valley had to walk through snow and to make their own path, for the usual occupants of the mountain pastures—the cows and goats, with their keepers—had temporarily deserted their summer hunting-grounds, and returned to winter quarters in the valley. During this cold week at Engelberg bedroom temperature in the hotels dropped to 43° F., and roaring fires had to be kept going in the public rooms. On the 20th a move was made for Meiringen, *viâ* the Brünig Pass, and, the weather suddenly changing, the bedroom temperature at Meiringen on that evening registered 70°. England can therefore claim no monopoly in changeable weather. Meiringen has some wonderful waterfalls and gorges, notably the Reichenbach Falls and the Aareschlucht, but it lies at too low a level to make a long sojourn desirable in warm weather. On this occasion it was simply used as a break in the journey to Grindelwald. The eight hours' walk from Meiringen to Grindelwald, *viâ* Rosenlauibad and the Great Scheidegg (6,430 feet), makes one of the most enjoyable all-day tramps imaginable. The ascent is easy, the path good, the scenery superb, and the half-way house (the Schwarzwaldgletcher Inn) all that can be desired.

Grindelwald (3,450 feet) is celebrated for its glaciers and ice-caves, but still more for its fine situation, which renders it a splendid centre for hill and mountain excursions. The seven hours' walk to Lauterbrunnen over the Little Scheidegg (6,770 feet) is one of the prettiest. The walk down the Lütchine Valley to Interlaken is another. But the ascent of the Faulhorn (8,800 feet) is the favourite pedestrian excursion, the summit commanding in clear weather one of the grandest views possible, the snow giants of the Bernese Oberland being here seen to the fullest advantage.

The journey home from Grindelwald was broken for a few hours at each of the following towns—Interlaken, Thun, Berne, and Basle. Interlaken is a fashionable valetudinarian resort, with some very fine hotels and gardens of tropical luxuriance. Thun is a quaint old town at the end of the Thunersee, a lake only second to Lucerne in its beauty of *entourage*. Berne is also an interesting old city and the seat of the Swiss Government. But it is rapidly losing its mediæval aspect, what with its grand new Federal Buildings, its handsome new bridge over the Aare, and its steam and electric tramways. Basle, an equally ancient town, is likewise becoming rapidly modernised. It is an important commercial and educational centre finely situated on the Rhine. A local guide-book describes it as the "Golden Gate of Switzerland," and recommends it as "a welcome stopover in the wearisome throughservice."

With regard to the group of pharmacies which illustrates this article, the Apotheke beim Rathhaus and the Apotheke Rogg are both to be found in Berne, and both help to keep up the antique appearance of that town. The interiors accord well with the exteriors, even to the retention of the sand-sprinkler in place of the modern blotter. The "English Druggist" who makes much of "bandages" and "wines and spirits," has the honour of possessing the only drug-shop in Meiringen. A Scotsman by birth and a German by pharmaceutical qualification, he is debarred from the full practice of apotheker in Switzerland owing to the lack of the Swiss diploma. A well-educated and scientifically trained pharmacist, he has to be content with the inferior position of "Droguist." In towns and villages where no Swiss qualified apotheker exists, the local doctor is empowered by the mayor to dispense prescriptions and to sell poisons, and he announces the fact by posting the word "apotheke" on the window blind or over the front door of his residence. Such an apotheke is represented in the snapshot of the house with the closed sun-shutters, situated in the village of Lungern on the Brünig Road. The stock of drugs in a village surgery is naturally of a somewhat restricted nature and English prescriptions, as often as not, have to be sent to the nearest town to be dispensed. The "Anglo-American Pharmacy" at Lucerne and the "Apotheke Seewer" at Interlaken, both have a large postal connection of this kind.

The Schwanen Apotheke is a pretty little primitive pharmacy in the old town of Altdorf, sacred to the memory of Wilhelm Tell. Here a bismuth and soda draught was served by a pleasant old gentleman, who seemed to exactly harmonise with his surroundings. The fee was 10 centimes. The Apotheke Müller is to be found in the Kapellgasse at Lucerne, in which are some of the quaintest and most attractive house-fronts in the town. The interior is fitted up in exquisite style and in perfect keeping with the exterior. It only remains to add that the proprietor is as polished as his pharmacy, indeed, one meets with the greatest kindness and courtesy on all hands in this delightful country and among these charming people.

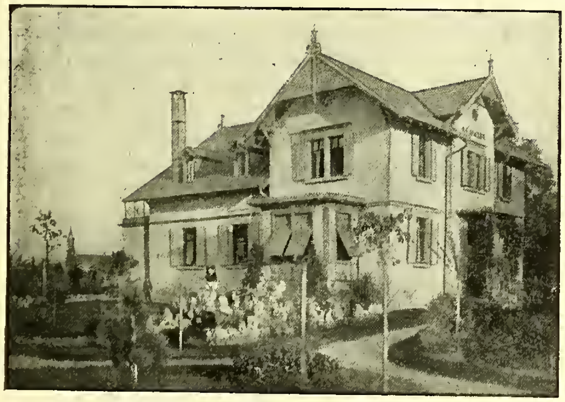

Apotheke Müller.

The flora of Switzerland is very rich and varied, and the flower lover can here gratify his taste to the full. The woods and meadows, the mountain pastures and the rugged hill paths all offer their brilliant and multi-coloured botanical treasures to the passer-by. The English visitor is naturally on the look-out for novelties, and is probably most attracted by those plants which are not indigenous to his own country. Among these the gentians, anemones, and primulas take first place. The vivid blues of the low-growing gentians, *G. bavarica*, *G. nivalis*, and *G. acaulis* are indeed surprisingly beautiful. Very different is the official *G. lutea*, a plant of sturdy growth, 3 to 5 feet high, with large whorls of yellow flowers. It is highly prized by the natives as a family medicine, being made into a "brantwein" or liqueur, and called "enzianwasser" or "eau de vie de gentiane." The principal anemones are *A. alpina*, *A. vernalis*, *A. sulphurea*, and *A. narcissiflora*, the last-named bearing a handsome umbel of pinky white flowers. The primulas are numerous and beautiful, ranging in colour from white and yellow to almost every shade of pink and purple. Belonging to the same family are the pretty little mosslike androsaces and the fairy soldanellas. The ranunculus tribe is well represented by the Alpine crowfoot, *R. alpestris*, the handsome globe flower, *Trollius europæus*, and the rich-coloured marsh marigold, *Caltha palustris*. The official aconite does not bloom until later, but the yellow *Lycoctonum* is plentiful in June. Other conspicuous objects are the violets and pansies, especially the yellow violet, *Viola biflora*, and the Alpine pansy, *Viola calcarata*. Among the *Rosaceæ*, the white dryas, or mountain avens, *Dryas octopetala* is worthy of mention. One of the wild roses is noticeable for its very rich carmine tint and its sweet perfume. The saxifrages are very numerous and many tinted. Among the composite flowers, knapweed, hawkweed, and arnica are well in evidence. The *Ericaceæ* are represented, among others, by the whortleberry, the cowberry, and the bearberry, and last, but not least, the celebrated so-called Alpine rose, *Rhododendron ferrugineum*. The sub-order *Pyrolaceæ* has a very pretty and delicate representative in the one-flowered wintergreen, *Pyrola uniflora*. Among the *Scrofulariæ* some vivid-blue speedwells are to be found, and the yellow foxglove, the purple being absent. But perhaps the most striking member of this family is the brilliant little orange and purple toadflax, *Linaria alpina*. In moist ground the butterwort, *Pinguicula vulgaris* (natural order *Lentibulariæ*) is a familiar object, both in the white and purple varieties. White hellebore is very plentiful in many districts, a vigorous plant, 2 or 3 feet high, and bearing tall spikes of greenish-white flowers. Among the orchids, in addition to the familiar British varieties, one occasionally chances upon the showy lady's slipper, *Cypripedium Calceolus*.

German Pharmacy.

Observations and reflections thereon by an Anglo-Scot who was an apprentice in a German Apotheke.

It was with mingled feelings that that young man of 17 left the German school to begin life in earnest. It was in a village of some two thousand souls, situated in an idyllic little valley at the southern borders of the Black Forest, three hours' walk from the Swiss frontier formed by the Rhine. The two nearest colleagues were in the small towns on both sides, each five miles distant. The apotheke was situated in a villa, surrounded by a garden, at the outskirts of the village, on the banks of a rivulet famed for its trout. The apotheker was a bachelor, the household being presided over by a maiden aunt. In summer about half-past 6, or in winter after 7, the "lehrling" (such is the German for apprentice) would come down. The servant had before his appearance opened the place and dusted it. His first duty was to dust the scales on the dispensing-counter (in Germany all is done by weight), then to take down from the shelves the bottles turned round, to show they needed replenishing from the stock. When this was done, breakfast was taken. Do not think of an English breakfast—simply coffee and a roll and butter. Then our disciple of Galen would look at the slate to see what was "defekt" and find that the "Defektur" consisted of making :—1 kg. tinct. valerian., 500 gr. ung. hydrarg. ammon., or something of that sort. The rhiz. valer., with the alcohol, was put aside to macerate for eight days. After the ointment was finished, there were still some small things to do—putting up pennyworths of zinc ointment, insect-powder, and such like. This was only occasionally interrupted by making up a couple of prescriptions. By that time it was 11.30—dinner time. Do not conjure up a picture of sauerkraut and sausage with beer; that for an apotheker's "lehrling" is only seen about twice a week in winter. The meal would be interrupted by having to run across and sell a pennyworth of something, or receive a prescription. From 12.30 to 2 was the doctor's consultation time, and then the prescriptions came in, the work lasting, according to the season, either for an hour or for the whole afternoon, during which a cup of coffee was taken.



Where the Apprenticeship was Served.

The apotheke or pharmacy is on the ground-floor right (facing the picture), and on the left in the garden are the drawing and dining rooms.

In the intervals of peace the "lehrling" would set to reading up for his examination, or do any small thing he could. At 7 was supper, and until closing time at 9 there was generally very little to do, except on Saturdays or in winter. After 9 the apprentice would either continue his studies or read, or, if he obtained leave, take a glass of beer in the village inn, where the Mayor and the notables assembled to talk politics or scandal. On Sundays the routine was slightly changed. With the morning delivery at breakfast The Chemist and Druggist came to cheer our "Engländer," as he was called, for the day's work, for on that day the peasants of the neighbourhood came to pour their woes into the doctor's ears, and then went to the veterinary surgeon to consult him about their cattle, and while the prescriptions were being made up take a drink, listening to the village band, or even dancing to its tunes. Often after such a day has our "lehrling" wondered why the apotheker should have to break the Third Commandment for the good of his fellow-men. On four holidays only were there no consultations.

Other variations of the daily round the common task was the analysing of drugs received, or when some galenical preparation was made which required the whole day. Then on some fine afternoon the "lehrling" would take a ramble in the surrounding mountains, enjoying Nature's beauty, and gaining fresh courage for stiff pill-masses. A glorious panorama rewarded his climbing. Far to the south the snowy peaks of the Alps, and stretching far to the north the mountains and woods cut by valleys of the Black Forest, and to the west the Rhine, a silvery streak flowing north; whilst in the distance the Vosges, marking the French border, formed the horizon. Then at home in the evening the plants collected would be classed and pressed for the herbarium required for the examination. Certainly the three years that "Engländer" passed as an apprentice in a German apotheke will remain one of the brightest reminiscences of his life.

The Measurement of Hearing.

At the recent International Congress of Medicine at Berlin, papers were read on this subject, in which it was mentioned that all watches have not the same intensity of sound, and that the tuning-fork is the best means of measuring the power of hearing. The method consists in employing the tuning-fork to note how long the sound is heard on the affected and on the unaffected sides respectively. The result may be expressed as a fraction, of which the denominator represents the time of perception of the healthy ear, and the numerator that of the ear examined. For example, R.A.D02. 256: 9/24 would mean that on the right side, the sound being conducted by the air, the tuning-fork, with 256 vibrations to the second, could be heard for 9 seconds, while it lasted for 24 seconds on the healthy left side. In the examination of children, articulate language is necessary. The whispering voice is the best to employ, and the words used and the distance at which they are repeated should be recorded.

When corns "shoot" on the approach of damp weather, the sharp throbbing pain then experienced is due in part to a sudden increase of activity in the vascular and sensitive papillæ, and in part to a rapid growth of the cuticle which already presses upon them—a provision against a rainy day when boots were not known.—(Dr. Louis Robinson, *North Am. Review*.)

Scientific Progress.

A New Elder Alkaloid.—Malmégac (*Jour. de Pharm. et de Chim.*, 1901, II. 17) gives a short account of a new alkaloid which he has extracted from the leaves and twigs of *Sambucus nigra.* Although the only indications of the presence of the body in question which he has obtained are precipitates with the alkaloidal reagents, and the occurrence of tiny crystals which immediately liquefied during the evaporation of ether used in one stage of the extraction, there is distinct evidence of the existence of a new alkaloid in the plant. Sambucine is the name given to it.

Rutin and Robinin.—Schmidt (*Apotheker Zeitung*, 16, 357) states that robinin on hydrolysis yields rhamnose, and a yellow colouring matter. This latter body, when quite dry melts at 130°, and has the composition $C_{15}H_{10}O_6$. It forms fine yellow needles and closely resembles the rhamnolutin described by Tschirch and Polacco. It yields a colourless crystalline derivative melting at 182°, of the formula $C_{15}H_6O_2(O.C_3H_5O)_4$. Its ethyl ether also forms yellow needles. The formula given by Perkin for robinin, $C_{33}H_{38}O_{20}+8H_2O$, is rejected by Schmidt as being quite out of agreement with the observed facts of the decomposition. Rutin, from *Ruta graveolens*, is stated to yield on hydrolysis, rhamnose, glucose, and quercitrin. It is clearly not identical with robinin. The quercitrin obtained is identical with that from quercitron bark. Rutin is possibly identical with the viola-quercitrin extracted from *Viola tricolor.*

Poison of Lotus Arabicus.—Professor Wyndham R Dunstan, M.A., F.R.S., and Mr. T. A. Henry, B.Sc., in an additional paper read before the Royal Society, June 20, report further on this subject. Lotusin, they say, is a yellow crystalline glucoside, more soluble in alcohol than in water. When heated it gradually decomposes without exhibiting any fixed melting-point. From combustions the formula $C_{28}H_{31}NO_{16}$ is deduced, and its hydrolysis is represented by the equation :—

$$\underset{\text{Lotusin.}}{C_{28}H_{31}NO_{16}} + 2H_2O = \underset{\text{Dextrose.}}{2C_6H_{12}O_6} + \underset{\substack{\text{Prussic}\\\text{acid.}}}{HCN} + \underset{\text{Lotoflavin.}}{C_{15}H_{10}O_6}.$$

When warmed with aqueous alkalis lotusin is gradually decomposed, ammonia being evolved, and an acid formed, to which the name lotusinic acid ($C_{28}H_{32}O_{18}$) has been given. This is a monobasic acid furnishing yellow crystalline salts. With the exception of amygdalin, lotusin is the only glucoside definitely known which furnishes prussic acid as a decomposition product. The rest of the paper (which is printed in the *Chemical News* for July 19) deals with constitutional questions chiefly, but it is stated that the formation of prussic acid seems to reach its maximum at about the seeding period, and after this period diminishes rapidly. The Arabs are aware that the plant is safe to use as a fodder when the seeds are quite ripe, but not before. It is the lotusin which disappears during the ripening of the seeds. Old plants contain some lotase and lotoflavin, but little or no lotusin.

Pseudaconitine, Japaconitine, and Aconitine.—Professors Cash and Dunstan reported to the Royal Society, on June 20, regarding the pharmacology of these alkaloids. *Aconitum Fishcri*, or Japanese aconite, yields japaconitine, and *Aconitum ferox* pseudaconitine. In the present paper the physiological action of specially purified pseudaconitine and japaconitine are recorded and compared with aconitine. The differences found are nearly always differences of degree and not differences of kind, a result which bears out the close constitutional relationship which is to be inferred from their chemical reactions. The relative toxicity of japaconitine to aconitine is found to be approximately as ten to about nine towards the small mammals and birds which were used. Previously japaconitine has been seldom contrasted with the other two aconitines, but has been recognised as stronger than aconitine by Langaard, and in one series of observations by Harnack and Meunicke. Kobert, on the other hand, does not separate japaconitine from aconitine and pseudaconitine in toxicity. Based upon the observations made, the relative doses for therapeutical purposes would be approximately, regarding that for aconitine as the unit, for pseudaconitine 0·4 to 0·45, and for japaconitine 0·8. As concerns the local action of the aconitines upon sensory (cutaneous) structures in man, the differences are so trifling as to be negligible. As regards the therapeutical employment of aconitine, japaconitine, and pseudaconitine, the great similarity in their physiological actions, amounting almost to a qualitative identity which is established by this investigation, justifies the employment of any one for internal administration, provided that the dosage is properly regulated. Given in the just proportions mentioned above, the three alkaloids would exert the same action. The authors strongly recommend the use of a pure alkaloidal salt in preference to preparations made from the plants, since the latter would be difficult to standardise, and even if this were done the action of the aconitines would be modified to a greater or less extent by the other alkaloids present in the vegetable preparation. For local applications the three alkaloids may be introduced into ointments in identical proportions.

The Art of Pharmacy.

A Sera-ous Question.

The callow budding pharmacist, when he selects a college,
  Should see that the appointments are entirely up to date;
For he must not neglect organo-therapeutic knowledge,
  And with the ways of guinea-pigs he must be intimate.
With rabbits, sheep, and horses, too, he must live as a brother,
  In order that of serum-making he may get the gist;
And it almost looks as if the youth with learning we would smother,
  He needs to know so much—this farm-assistant pharmacist.

SPENSING
PURCHASE PINKLES PILLS FOR A PINK PROBOSCIS
F. Rippingon

Our Customers.

"I say you fellow behind there!—give me a 'Pick-me-up.' (*sotto voce*) You know I'd two glarses of claret larst night—really beastly of me—and I've an awful headache this morning!"

Thermometrical.—Teacher: "What happens when a man's temperature goes down as far as it can go?" Smart Scholar: "He has cold feet."—"Here, young man," said the old lady with fire in her eyes, "I've brung back the thermometer you sold me." "What's the matter with it?" asked the assistant. "It ain't reliable. One time you look at it it says one thing, and the next time it says another."

Observations and Reflections.

By **Xrayser.**

The Marquis of Salisbury

is not the man to learn statesmanship from Lord Avebury and his amiable colleagues, still less from the philanthropists and secretaries and shopkeepers who gave evidence before the Shop-hours' Committee. "When is the man to get his boots?" he asked one of the witnesses, who was trying to minimise the alleged difficulty which the labourer would have if all the shops were closed when he had done his day's work and tidied himself up. The Premier is not an easy person to convert, and I cannot avoid the conclusion that his accepted amendment to the report which the Committee had previously agreed to was formed with the express object, I will not say of wrecking the Bill, but at least of emasculating it. There would obviously be awkward obstacles in the practical working of Lord Avebury's scheme, especially as regards the separate votes of the different trades; but if there is anything like the earnest desire for earlier closing which the evidence of experts suggests, these would be disposed of in good time. Lord Salisbury's proposal avoids this difficulty, it is true; but it avoids it by, in fact, shirking the business altogether. The initiative of interested people, which Lord Avebury desired to use, is to be shattered; and in its place we are to have the veto of some gilded youth in the Local Government office. It is astonishing, and a matter for regret, that Lord Avebury should have surrendered so tamely to his party chief.

The P.A.T.A. Accounts

look healthy, but I think I am justified in saying that they are not really so satisfactory as they seem on paper. The financial statement, as published last week, showed an opening balance in hand of 7*l.*, and a closing one of 163*l.*; but I am informed that, in order to bring up the accounts to a more convenient date, the statement referred to covers a period of about eighteen months, and takes in the special revenue quarter twice over. It is in the interest of the Association that this condition should be known. Its operations are strictly business ones, and its existence means actual profit to every retailer of proprietary articles. Many of those who do not subscribe to it would perhaps be sorry, and would certainly be poorer, if it perished. Unless they have a conscientious objection to trade combinations they would be wise to furnish it with sufficient funds to maintain it in activity.

The Chemists' Defence Association,

on the other hand, looks a little worse on paper than it actually is. Against the apparent deficit of 72*l.* must be set the 100*l.* for initial expenses. That figure is a beautifully round one; but if it is approximately correct, the C.D.A. has not had a bad financial year. The item in its accounts which most astonishes me is the 36*l.* 0*s.* 11*d.* for legal charges. If this covers the cost of nineteen defences, including some half-dozen pitched battles, and the solicitor's advice on all the puzzles submitted to him, I can only repent of the many unjust things I have said in my time concerning the legal profession. I notice that the Association was able "to settle by payment of a small sum" a claim for damages brought against one of its members. In which item of the expendi- is that payment included?

Chemists Have no Holidays,

we sometimes hear. Yet in last week's Supplement there are no fewer than twenty-five locums offering their services.

Mr. Justice Hawkins

expressly declined to indicate in the Wheeldon case what constituted supervision. I hope the directors of Parke's Drug-stores (Limited) will support in a County Court the view which their assistant laid before Mr. Braxton Hicks that the qualified man in the dining-room supervised the sale of laudanum in the shop. That theory should interest the Balham public.

The "Law Quarterly" Review

for July is instigated by the action of the Pharmaceutical Society *v.* White to ask, "When can a tradesman be properly said to sell goods?' The plain man who says this is one of the futile questions raised by the subtlety of lawyers is challenged by the editor to give "the plain answer so easily found by common sense" to the question propounded in the action referred to. The facts of the case are briefly narrated in the Review, and the issue is stated to have been:—Did White, of Worcester, sell the weed-killer, or was he only an agent? The *Law Quarterly* says:—"A County Court Judge has answered the question in the negative. The Court of Appeal have not answered the question at all, and have only decided that the County Court Judge's answer is conclusive. If the inquiry were put to a dozen laymen probably six would answer it one way and six another." Doubtful; anyway, if the editor of the *Law Quarterly* thinks by such a retort to defend the Court of Appeal he thinks a vain thing. I submit two questions to him: first, was it not the duty of the Court of Appeal to answer the question? and, secondly, where was the weed-killer bought? I fancy all his dozen laymen would have agreed that the stuff was sold where it was bought.

That Dublin Article

in last week's *C. & D.* was to most of us a refinement of cruelty. We are not going to the Conference; no such bright break of our commonplace existences opens for us; why should we be tortured by allusions to, or still worse, reminders of Killiney Hill, St. Stephen's Green, Dalkey, Glendalough, the Vale of Avoca, or Killarney? Can those names leave even a stranger indifferent? But if it is truth the poet sings that "sorrow's crown of sorrow is remembering happier things," what do they not express to those to whom the places are more than names? I knew Dublin before it was disfigured by nets of overhead wires, but even as it is how gladly would I balance myself again on the edge of a car and swing round the corner of the great Square into gay Grafton Street. I could sit through the discussions "concerning Cascara Sagrada" and "the bark of Robinia Pseudacacia" if only to hear those names as they will be pronounced in Leinster House next week. Yes, it is worth going to Ireland, if only to hear the English language as she should be spoken. Say to yourself the words County Wicklow and County Cork with the plaintive crooning Hibernian accent on them, if you can catch it, and then say County Middlesex or County York in your own tongue, and decide if you are proud to be associated with the predominant partner any longer. If he is wise, President Druce will somehow stimulate an animated discussion among his hosts on some subject, no matter what, for the mere sake of the music. Animated I mean in the Saxon sense; an Irish animated discussion requires the accompaniment of shillelaghs. The organisers of the Conference at Dublin in 1878 gave us a grand time, I remember, but some of them are gone, and some have been knighted. The reputation of their country for hospitality is safe enough, however, in the hands of the new race even with a teetotal chairman, and those who go to this meeting will, I am certain, come back with a grateful and cordial respect for their entertainers both socially and pharmaceutically.

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Mainly Topical.

We have now fairly entered upon the season when men in various branches of applied science gather themselves together in the cause of progress. The Society of Chemical Industry has met this week in Glasgow, and Mr. J. W.

Swan has terminated his year of office as President by an admirable address, which demonstrates completely that a pharmaceutical training is not detrimental to future progress in any branch of science. Mr. Swan's long connection with pharmacy as a hard-working business man did not blunt his energies in several directions of research which have given stupendous pleasure to mankind. Who can estimate the boon that the incandescent electric light is to the world? To shopkeepers alone it has meant a saving of perhaps millions of pounds by eliminating from the atmosphere of business premises those vapours from gas-burning which are destructive to every kind of material, and this does not reckon the advantage which the light has been in making business possible on many a day when this fog-haunted island has been shadowed at noon. A number such as this of The Chemist and Druggist is further evidence of Mr. Swan's skill in research, for besides his improvement on the gelatin photographic dry-plate, which made instantaneous pictures possible, he has also devoted much attention to the improvement of photo-engraving processes, whereby description, always tedious, is now largely replaced by effective and instructive pictures. This issue of The Chemist and Druggist alone, thanks to photo-engraving, contains more pictures, and better ones, that there were in the first ten volumes of the journal. We do not reckon what there are in the advertisement-section. There, also, the photo-engraver is paramount, as a reference to such insets as Messrs. Lorimer's, Maw's, or Wright, Layman & Umney's will tell. Illustration is more beautiful now, and more varied than it was when Mr. Swan helped Mr. Barnard Proctor to devise a cheap measure, and it is worth noticing that without electric light to print the photographs upon the metal plates the engravings could not be produced quickly enough for the newspaper press. It is curious that it is the branches of science outside pharmacy that have honoured Mr. Swan; it is not too late to make him an honorary member of one or other of our pharmaceutical bodies, and there may be an opportunity next week when the British Pharmaceutical Conference meets in Dublin. Of that meeting we are pleased to hear that there is every indication of large success. A big attendance is assured, and the programme, practical and social, is full to repletion. We have heard of a suggestion of absorption of the Conference by the Pharmaceutical Society of Great Britain. This is pure silliness, desired neither by the Executive of the Society nor of the Conference, nor dreamt of by any reasonable person. Nor is there the slightest need for it. Perhaps Mr. Druce, the President of the Society, may have something to say on the subject next week, but if not the members assembled will make it sure that the independence of the Conference is one of the best things for the pharmacy of the British Empire. This week medical men from all civilised countries have met in London under the auspices of the Congress on Tuberculosis. It is not possible at the time of writing to discuss the results of the Congress, but is the mere fact of such a Congress not an admirable example of modern specialising in the treatment of disease? Further, the circumstance that delegates from the more important local authorities in the Kingdom have been present may be taken as an index to a remarkable change in medical methods. At one time the doctor and the druggist worked hand in hand in fighting disease; now the medical officer and the sanitary inspector will be done with before the curers are called in. The crystallisation of preventive methods is not yet definite, but that the tendency is as indicated no observant man can deny. We have no fear of the druggist going to the wall; history shows that he has been the most adaptable of persons, and the twentieth century is not likely to see his extinction. We may also remind our readers at home that the British Medical Association meets in Cheltenham next week, and an attractive programme has been provided.

French Patent-law.

A decision of considerable interest has just been given by the French Council of State with regard to the powers of the Government in the matter of patents. Messrs. Lumière, the well-known chemists and makers of "Lumière" photographic plates, claimed, on the ground of excess of power, the cancellation of a decision of the Minister of Commerce rejecting a demand for a patent lodged by them for processes of manufacture of organic persulphates. The refusal by the Minister to accept the patent was based on the ground that it was a question of pharmaceutical compositions, which, under the terms of the law of July 5, 1844, cannot be patented. As a matter of fact, the products of which Messrs. Lumière sought to obtain a patent for processes in manufacturing are persulphates of quinine, cocaine, &c., which may be applied to either industrial or pharmaceutical purposes, and though the plaintiffs stated in their application for a patent that the products could be employed in industry, they failed to specify for what particular purpose it was intended to apply them. The question therefore arose as to what are the exact powers of the Minister of Commerce in granting patents. Is it his business to see if the label under which a product is presented is exact, and, in case of a product for which a patent is claimed for purposes of industry, can he refuse it on the ground that it can also be used in therapeutics? Both questions were answered in the negative by the Council of State. As, according to the French patent-law, which differs materially from that of some other countries in this respect, the Minister is not called upon to make searches, in reality he is covered by the fact that a patent is issued with the specific mention, "Without Government Guarantee." The result is that Messrs. Lumière's claim has been disallowed by the Council of State on the ground that they had failed to specify for what purposes the organic persulphates in question were intended. The Council held that the Minister of Commerce was justified in treating them as unlabelled goods, as they are essentially pharmaceutical products, in refusing a patent, and in doing so he in no way overstepped his powers. The portion referring to pharmacy of the law of July 5, 1844, reads as follows:—

> Are not susceptible of being patented; pharmaceutical compositions or any kind of remedy, such matters being subject to the special law and regulations concerning them, and notably to the decree of August 18, 1810, relative to secret remedies.

Messrs. Lumière appeared to have some reason for thinking that a law that covers the sale of certain products does not necessarily apply to the processes by which such products are made, but in this case the French Council of State have decided otherwise.

Bulgarian Otto of Rose.

We have received this week definite information from a Kezanlik correspondent in regard to the rose-crop now in process of distillation in Bulgaria which practically confirms the earlier reports already published in this journal. We may say at once that it is about up to the average, although we are not yet in possession of the actual figures from all districts. Of course the usual gloomy reports were circulated immediately after the harvest that the crop was quite a failure, and the yield one of the smallest on record. These reports, however, were carefully investigated by some of the leading exporters, and they proved to be greatly exaggerated. It is true that in some rose villages which were visited by severe hailstorms in the early summer the crop is a failure, but, as our correspondent points out, there are also many places where the yield is considerably above the average. According to the most careful estimates, the aggregate output of the new crop will be about 75,000 Turkish oz., or two-thirds that of last year, which, however, was the largest on record—between 115,000 and 130,000 Turkish oz.

The comparatively small yield this year is due to many causes, but chiefly to the unpropitious weather during the budding and harvesting seasons. The unfavourable weather during the budding season impeded the usual rich yield of rose-buds, the clusters having only from three to five buds at the most. Under favourable weather the rose-bushes often yield from seven to fourteen, and even twenty-one rose-buds. Poor as the yield of rose-buds was this year, many of them withered and dropped before maturity on account of the hot and dry weather during the harvesting time. The distillation of the crop, which began in the southern localities as early as May 18, and which usually lasts about four weeks, this year occupied three weeks only. The dry weather forced the buds to blossom much quicker. As it happened, there were abundant stills in the vicinity, and the rose-flowers were not only duly gathered, but also carefully and leisurely distilled. Thus the quality of the crop is said to be very superior indeed.

The new price is not yet "fixed," and as matters stand it does not seem probable that it will be so before the middle of August. It is said that the low prices that have ruled for the past four years have rendered the rose-culture unremunerative, and the growers throughout the entire districts, depending on a small supply this year, insist on a fair price. Last spring the rose-growers decided not to give the exporters any rose in advance (as was often done in former years) before the new price was fixed. The farmers are usually advanced money by the exporters for their coming crop. In fact, many of the growers hand over their otto to the exporters as soon as the distillation is over, in order to save paying any interest on the money advanced, accounts being settled later when the general price is fixed. This practice, the growers think, has led to the lowering of prices, so this year they have determined not to part with their produce until the price is actually fixed. We should think it is doubtful, however, if such a plan can be carried out successfully, and probably the reason for the delay in fixing prices is to be found in the fact that the farmers will thereby be induced to accept monetary advances. The prices, however, will probably be from 15 per cent. to 20 per cent. higher in view of smaller crops, but it is as yet difficult to say. Only such an advance will satisfy the discontented growers and repay them for their hard labours, but of course the new price will chiefly depend on the demand from abroad. So bitterly have the rose-growers felt the low values during the past three years that in November last about 1,800 of them signed a petition, which was laid before the Bulgarian Government, in which the petitioners complained bitterly of the low values and of the way in which the prices were fixed by merchants, and accused one firm especially of systematic cutting. What reply was given to this petition we do not know; but we are informed by our Bulgarian correspondent that some of the growers have already begun to uproot and destroy their rose-plantations. It may be remembered that in 1899 the Bulgarian Government submitted a Bill to the Sobranje for the purpose of bringing about official regulations for the industry, but Parliament was dissolved before the project came on for discussion, and up to the present no result appears to have been attained.

There is always plenty of competition in the otto-of-rose business on the London market, but it can hardly be expected that the extremely low prices which prevailed last year will again rule. On the other hand, many buyers took advantage of these low prices and laid in a good stock, so that probably their wants will be smaller, especially as the perfumery business suffered severely by the war. Perhaps the Coronation of the King next year and the attendant gaieties will help to increase the consumption of perfumery generally.

The Microbe of Syphilis.

It has always been a reproach to bacteriologists that with all their pretended science they have not been able to isolate the specific germ of one of the commonest of maladies—a malady, moreover, which, from its course and symptoms, must of necessity be due to some marauding micro-organism. By those who are acquainted with the peculiar vagaries of this interesting, albeit loathsome, disease no such surprise could be felt. The natural history is full of surprises. Its extremely long period of incubation, the absolute immunity which one attack confers against subsequent infections; the fact that the mother of a syphilitic child, herself free from syphilis, is immune against infection (Colles' law), and its special tendency to hereditary transmission, *plus* the fact that symptoms may arise at any period during the subsequent life-history of the individual, long after he or she has ceased to be infectious—all these peculiarities render syphilis one of the most interesting diseases to the investigator. A paper read before the French Academy of Medicine recently by MM. de Lisle and Jullien (the celebrated surgeon of the Hôpital St.-Lazare) marks an epoch in the history of this malady from a scientific point of view. These investigators claim, apparently on good and sufficient grounds, to have succeeded in isolating and cultivating the specific microbe of syphilis. In spite of the fact that previous researches had been carried out with negative results on the blood of syphilitic subjects, they chose this "liquid tissue" for their researches. They point out, *en passant*, the curious fact that the blood of syphilitic subjects loses its infective powers on coagulation, and they call attention to the fact that there is not a single instance on record of syphilitic infection from a *post-mortem* wound. They therefore carried out their investigations on blood freshly drawn from the subjects of syphilis at the active stage of the disease, before any mercurial treatment had been instituted. They found—not only in the blood, but also in the fluid of blisters—a microbe presenting certain well-defined and remarkable characteristics. The little beast is polymorphous—that is to say, it presents itself in various forms, varying from that of a short bacillus to that of a thread-like organism measuring from 5 to 8 micro-millimetres in length. It is very mobile, and can be seen to "bustle round" under the microscope. This disgusting little organism grows freely on most of the media employed in bacteriological researches. The list of alimentary substances on which it consents to thrive is lengthy and it is amenable to most of the stains employed, with the exception of what is known as the Gram procedure. Beginning as a small, highly refractile, rounded body, it changes its shape as the culture grows older, and, as already stated, it develops into a thread like organism, a process which takes about ten days to come about. If at this stage the culture is inoculated into a fresh culture, or into an animal, the microbe rejuvenates and resumes once again its infantile form. In about thirty days (the period of incubation of true syphilis) it becomes granular and apparently dies, but even so it can be brought back to life within certain limits by careful treatment. Injected into guinea-pigs, which animals apparently share with poor humanity a liability to venereal disease, it determines loss of hair (a familiar sequel of syphilitic infection) with a local sore presenting the induration and tendency to ulceration which are characteristic of the primary syphilitic lesion. The grounds on which these observers base their claim to having identified this microbe are, briefly stated, the fact that it is found in all syphilitics, in syphilitics alone, and in none but syphilitics. It "agglutinates" the serum of syphilitic subjects, though without action on the serum of normal individuals. It determines, moreover, on inoculation lesions and symptoms strictly comparable with those following the inoculation of the true virus, while it proves inert in respect of persons already under the empire of syphilis (syphilis, as already stated, being a disease one attack whereof confers immunity against subsequent infection). Lastly this microbe dies with its host just as in human beings the blood ceases to be infective after death. The discovery of the specific bacillus of syphilis does not, of course, entail any immediate advance in the means at our disposal of preventing, still less of curing, the disease, just as in respect of tuberculosis Koch's discovery has not enabled us forthwith to stamp out tuberculosis. But, just as with tuberculosis, the discovery opens our eyes to the real nature of the malady, and may put us on the road to guard against its attacks. Should this discovery successfully withstand the criticism of which it is certain to be the object, a great step will have been accomplished in our knowledge of the subject—a step which it may confidently be hoped will ultimately pave the way to the discovery of the means of forestalling and preventing its ravages.

THE SALE OF COCAINE.

The tragic death of two actresses from cocaine-poisoning has been the means of drawing public attention to the dispensing and sale of this poisonous vegetable alkaloid, and in the House of Commons on Monday Mr. Akers Douglas, on behalf of the Home Secretary, stated that the matter would be dealt with by the Privy Council Committee, which is to consider the revision of the Poisons Schedule. The Coroner's jury in the Bloomsbury tragedy recommend that cocaine should only be dispensed under the fully-signed prescription of a medical practitioner, and to persons whose names and addresses are known. To carry out this recommendation an amendment of the Pharmacy Act would be necessary, and no right-thinking person would object to that, because of all the horrors that have been created during the past twenty years cocaine-taking is probably the worst. The horror has grown in face of the fact that cocaine is in the first part of the Poisons Schedule, but that fact has never been exactly appreciated by retailers. More stringent attention to the matter is necessary.

EARLY CLOSING OF SHOPS.

Referring to the Marquis of Salisbury's proposal to deal with early closing by provisional orders, the *Grocer* says this "method of law-making is of quite recent growth—due partly to the ever-increasing pressure on the time of the House of Commons, partly to the multiplication of local authorities and the extension of their powers, and partly to the cost of private Bill legislation. Every year greater use is made of it; and this session the number of provisional orders which have been, or will be passed, is four or five times as large as the total of the public Bills introduced in both Houses, whether by the Government or by unofficial members. When a provisional order is applied for, the department concerned—in the case under consideration it would be the Home Office—conducts a local inquiry, hears evidence, and, if the report of its inspector be favourable, takes charge of the Bill, which goes through all its stages in the two Houses at the time of private business. This procedure is more expensive and more cumbersome than the simple plan proposed by Lord Avebury's Bill."

WATER ANALYSIS.

Further research has been made by the L.G.B. experts to discover a bacterial imperfection in water, which shall stamp it as having received recent contamination from sewage matter, and in the annual report this is claimed to have been found. Streptococci exist in many varieties, but it is asserted, albeit with caution, that streptococci of no variety are found in pure soil, while streptococci are invariably found in fresh excreta from the bowel. Again, the streptococci as a class have been ascertained by experiment to be possessed of but weak power of resistance when out of their proper element, and consequently soon die. Therefore, streptococci being found are proof of recent sewage contamination. Everybody who has had to judge a water by its chemical analysis will appreciate anything that will throw any absolute light upon the question, Is the contamination such as to condemn the sample or not? The vexation of much or little free and albumenoid ammonia, and much of one and little of the other makes the anxious analyst yearn for some conclusive factor, and welcome with joy anything that will make him more positive in his own mind and less ambiguous in his report. Will this streptococcus help? The cases reported all stood condemned by the ammonia-tests, and the learned bacteriologist would still have condemned them had he failed to find his friend the streptococcus. If it is there the water is bad.

EXPERIMENTS ON TYPHOID.

Chichester has the unenviable reputation of having from time to time serious outbreaks of typhoid-fever. With a view to the abatement of this evil there have been several Local Government Board inquiries, the last of which, together with an abstract from a former one, was lately published in the Board's annual report. The fact that these inquiries have completely failed in their object—viz., to discover the cause and point out the remedy, is rather disappointing, but nevertheless they are of great value in clearing the way for the future, removing misconceptions, and also interesting to all who have some concern in public sanitary matters. There are many points to bear in mind with regard to typhoid fever, which the latest investigations appear to prove conclusively:—

1. That it is a disease propagated by bacteria.
2. That the infection lies wholly and solely in the excreta from the bowels.
3. That communication to a new patient must also take place by the bowels.
4. That such communication is probably invariably made by infected food or drink.
5. That the great outbreaks of typhoid fever have generally been traced to their origin on purely circumstantial evidence.
6. That chemical and bacteriological work has repeatedly failed to detect contamination of water and milk supplies which have undoubtedly been the cause of great outbreaks.

The Chichester investigators having failed to find any trace of suspicion in the food and drink supply, turned their attention to the soil to see if the typhoid bacillus existed in it, but it could not be detected in the soil itself. Sewage-infected soil was then sown with typhoid bacilli and examined after an interval of a few days, with the result that no bacilli could be detected in it. The deduction therefore is that the other bacteria of sewage-polluted soils rapidly destroy the bacilli of typhoid, while sterilised soil or soil comparatively free from bacteria supports them much better. This is rather a shock to most preconceived ideas, since it proves that the evacuations of, for example, an enteric tramp upon virgin soil, from which it can wash into a water-supply comparatively free from other microbes (as at Maidstone), is an ideal condition for the spread of the disease.

THE TOLL OF THE UNSUCCESSFUL.

The statistics of failures in the United Kingdom during the first half of 1901, compiled by Mr. Richard Seyd, F.S.S., have just been issued. The number of failures has been 4,682 (2,467 bankruptcies and 1,940 deeds of arrangement), of which 435 are in the financial, wholesale, and manufacturing branches of trade, and 3,978 in the retail trade—the balance (275) being Scotch trust-deeds. In the first half of 1901 six "wholesale druggists, &c.," failed, and, singularly enough, the same number exactly went under in the corresponding period of 1900. In retail trades chemist and druggist failures number 35, as against 26 at the end of June last year. This is four more than the second half of 1900 (the latter part of the year being most productive generally of failures for some reason), and it therefore looks as though chemists suffered with others in the general depression this year. Since the beginning of the year 1,036 limited companies have been wound up—533 voluntarily, 362 on account of liabilities, 80 for the purpose of reconstruction, and 61 by order of the Court. It would be interesting to know how many of these unsuccessful companies were engaged in the practice of pharmacy.

Notes on Resinoids.

By Lewis Ough, F.C.S., F.L.S., Pharmaceutical Chemist.

XII.—Hydrastin.

The source of this important resinoid is the rhizome and rootlets of *Hydrastis canadensis*, Linn. (*Warneria canadensis*, Miller), of the N.O. *Ranunculaceæ*. Many of its common names are derived from its colour—such as golden seal, yellow-root, orange-root, wild turmeric, jaundice-root, yellow eye, Indian turmeric, Indian paint, yellow paint, and Indian dye—whilst other synonyms, such as eye-balm and eye-root, indicate its reputed value for eye-affections. It is also occasionally known as the ground raspberry, on account of the resemblance of its fruit to an unripe raspberry. The name yellow puccoon-root has, in some instances, led to its being confused with the true puccoon or blood root, the rhizome of *Sanguinaria canadensis* (N.O. *Papaveraceæ*).

The plant grows principally in the rich soil of shady woods and moist places at the edge of woody lands in Canada and West Virginia, Kentucky, Ohio, and Indiana, U.S.A., from which districts it is alone collected for commercial purposes. Its growth is very rapid, and in a week or ten days it will rise to the height of 6 inches. Its inflorescence, when fully expanded, is a greenish-white single asepalous and apetalous flower which lasts but a few days. The stem is erect and very hairy, and is surrounded at the point from which it issues from the root-stalk by several sheathing, greenish-yellow, leafy bracts. The fruit, which ripens in July, is a globose, succulent berry, somewhat like an enlarged raspberry, the seeds being egg-shaped and nearly black. The fresh rhizome when fully grown is from 2 to 3 inches in length and about ½-inch in diameter, oblong, irregular, and knotted, with a bright yellow interior and a thin yellowish-brown bark, and at the end of four or five years it gradually decays at one extremity as fast as it grows at the other. The odour is peculiar and persistent, and the taste acrid, irritating, and bitter, producing a copious flow of saliva, but it is free from marked astringency. The dried rhizome is terminated by a concave scar, is longitudinally wrinkled, and has on its under-surface numerous thin fragile rootlets about 4 inches in length; it breaks with a short waxy fracture, and internally is of a brownish-yellow tint. The American aborigines valued this root highly as a tonic and stomachic, and as an application for sore eyes; from it they obtained a yellow dye for their implements of warfare and clothing, and to linen it is said to impart a rich durable light-yellow colour of great brilliancy.

Durand, in 1851, found in this rhizome a white crystalline alkaloid (hydrastine) and a yellow colouring-matter, which, in 1862, was recognised by Mahla as berberine. This last-named alkaloid was first discovered in 1824 by Huttanschmid in the root of *Geoffrya inermis*, who named it "jamacine," and two years later Chevalier and Pelleton found it in the root of *Xanthoxylum clavæ-Herculis*, and they called it "zanthopecrit." The yellow alkaloid from *Berberis vulgaris* was in 1830 named "berberine," and a few years later these three alkaloids (jamacine, zanthopecrit, and berberine) were shown to be identical. A third alkaloid, also of a yellow colour, was identified by Hale (1873), which Lerchin (1878) named 'zanthopuccine," but by some workers this is considered to be a mixture of hydrastine and berberine. In addition to the above, which exist in combination with an unnamed vegetable acid, the rhizome contains a fluorescent substance (probably identical with æsculin), a green fixed oil of a disagreeable smell and taste, a small quantity of volatile oil to which the odour of the root is due, sugar, albumen, starch, and abou 10 per cent. of mineral matter. The alkaloid hydrastine yields an oxidation-product, hydrastinine, which is also crystalline, and forms crystalline salts.

For the preparation of the resinoid hydrastin, the coarsely powdered rhizome is thoroughly damped with spirit (sp. gr. 0·828), packed in a percolator, and allowed to macerate for about forty-eight hours, then slowly extracted with more spirit till thoroughly exhausted, about 2 gals. of spirit being required for each pound of root taken. The bulk of the spirit is recovered from the alcoholic tincture by distillation, and the remainder driven off at a low temperature. The resinoid thus obtained is of a darkish-brown colour, and readily reduced to a fine powder in a dry, warm atmosphere. The average yield is 11 per cent.

Rutherford considers hydrastin to be "an hepatic stimulant of considerable power and a feeble intestinal stimulant," and the author of "Positive Medical Agents" asserts that as an antiperiodic it is only excelled by quinine, whilst by others it is said to exercise an especial influence over mucous surfaces, and according to Lee, "preparations of hydrastis act upon the hepatic functions as a cholagogue." It is generally acknowledged that the resinoid is highly irritating and stimulating, differing greatly in effect from the alkaloid hydrastine which acts as a simple bitter only—in fact, by some the resinous extract has been considered so powerfully irritating as to be classed as an escharotic.

The work connected with this note was conducted in the laboratories of John Richardson & Co. (Leicester), Limited.

An Australian Subscriber, writing to us on a Commonwealth postcard from a town in Victoria, says:—"To the English chemist who joins the 'legion which never was listed,' the *C. & D.* is very welcome week by week, and adds another link to the bonds between him and the dear old homeland. Long may you flourish!" The Commonwealth postcard bears a design showing portraits of Queen Victoria, the Duke of Cornwall and York, and the Earl of Hopetoun, with the motto "One people, one Empire, one destiny."

Practical Notes and Formulæ.

Bug-destroyer.

A solution of 150 gr. of naphthalin in 2 pints of oil of turpentine applied to all the cracks in the floor and furniture of a bug-infested room is one of the most efficacious ways of getting rid of bugs. The room should afterwards be washed with hot solution of carbolic soap.

Compound Liniment of Cajuput.

Oil of cajuput	1½ fl. oz.
Chloroform	1 fl. oz.
Chloral hydrate	1½ av. oz.
Soap-liniment, to make	16 fl. oz.

Dissolve the chloral in the soap-liniment, add the chloroform and oil of cajuput, and mix.

—*Meyer Bros.' Druggist.*

Infants' Malted-food.

Powdered malt	1 oz.
Oatmeal, finely ground	2 oz.
Sugar-of-milk	4 oz.
Baked flour	1 lb.

Brown-shoe Polish.

Soft-soap	℥ss.
Linseed oil	ʒvj.
Liquid annatto	℥ij.
Beeswax	ʒvj.
Turpentine	℥ij.
Water	℥ij.

Dissolve the soap in the water and liquid annatto, melt the wax in the oil and turpentine, then gradually stir in the soap-solution. Stir till cold.

Linseed-emulsion.

Oil of wintergreen	ʒij.
Oil of cinnamon	ʒij.
Diluted hydrocyanic acid	ʒiiss.
Glycerin	℥v.
Syrup	℥x.
Water	℥xxiv.
Acacia, powdered	℥iij.
Linseed oil	℥xv.

Make an emulsion.

Dose: Two to four teaspoonfuls t.i.d.

Colourless Hydrastis.

Hydrastine hydrochloride	gr. xxv.
Aluminium chloride	gr. xxiij.
Calcium chloride	gr. xx.
Magnesium chloride	gr. xviij.
Potassium chloride	gr. ss.
Diluted hydrochloric acid	♏x.
Water	℥vj.
Glycerin to make	℥xvj.

M.

—*The Spatula.*

Veterinary Formulæ.

In countries where barbed-wire fences are much used cattle are constantly getting cut. Applications like the following are of great value in such cases:—

Barbed-wire Fence Liniment.

Linseed oil, raw	16 oz.
Potassium nitrate	1 oz.
Lead acetate	1 oz.
Sulphuric acid	1 oz.
Carbolic acid	½ oz.

Mix the oil with the potassium nitrate and lead acetate, and slowly add the sulphuric acid, stirring continually; when cold, pour off the dregs and add the carbolic acid. Apply with a feather twice a day. Do not wash the sore at all.

Barbed-wire Fence Lotion.

Copper sulphate	1 oz.
Iron sulphate	1 oz.
Zinc sulphate	½ oz.
Alum	½ oz.
Water	16 oz.

Apply twice a day with a sponge.

Creme-de-Menthe Syrup.

Creme de menthe	Oj.
Orange-syrup (made from the fresh fruit)	Oiij.

Mix thoroughly.

Aniline-stains.

The following solution is recommended for removing the persistent stains produced by aniline dyes:—

Sodium nitrate	7 parts
Sulphuric acid	15 parts
Water	500 parts

Mix, and allow to stand a day or two before using.

[One part of nitric acid to 40 parts of water should be just as good.—Editor.]

Toothache-tincture.

Tr. benzoini co.	ʒiv.
Tr. opii	ʒij.
Chloroform.	ʒij.
Creosot.	ʒij.

M.

The cavity of the tooth is to be first cleansed and dried by means of absorbent cotton-wool. A small pledget of cotton-wool saturated with the above tincture is then inserted, and on the top of that a pledget saturated with the following

TEMPORARY STOPPING.

Camphor	ʒij.
Mastic	ʒv.
Balsam of Peru	ʒij.
Sandarac	℥ij. ʒvj.
Ether	℥v.
Alcohol (90-per-cent.)	℥v.

Dissolve.

Miller's Mouth-antiseptic.

A mouth-wash containing perchloride of mercury is the most active buccal antiseptic, but is not often admissible on account of its disagreeable taste and poisonous properties if not used with great care. The following mixture, although less active, is quite safe to use, and is a good antiseptic:—

Saccharin.	gr. xl.
Ac. benzoici	gr. l.
Tr. krameriæ	℥ss.
Ol. menth. pip.	♏viij.
Ol. cinnam.	♏viij.
Alcohol. absol. ad	℥iv.

Disinfecting-powder.

Dissolve—

Naphthalin	5 parts

In—

Carbolic acid	15 parts

And add to a mixture of—

Gypsum	75 parts
Kieselguhr	12 parts
Red ochre	1 part

Detecting Methylated Spirit

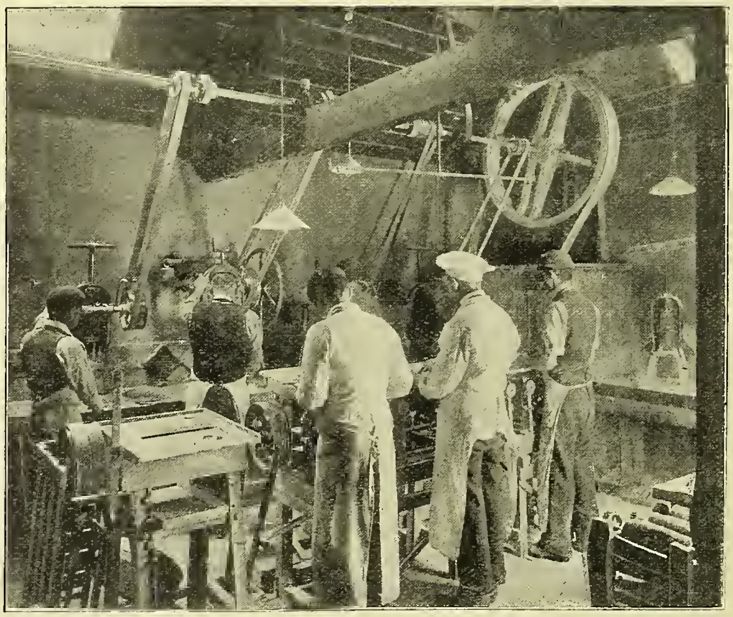
in pharmaceutical preparations with certainty is not always an easy matter. Mr. F. A. Sieker (*Pharmaceutical Review*) finds the best test is one which depends on the oxidation of methyl alcohol to formic aldehyde. The details of the test are as follows:—

Pour 4 to 8 c.c. of the suspected preparation into a long test-tube and heat carefully so as to volatilise a part of the alcohol. Immediately insert into the test-tube, and over (not into) the liquid, a copper spiral that has been previously heated to dull redness. Withdraw the spiral so as to permit its reoxidation, again insert it into the tube and repeat this a number of times. As the oxidation of the alcohol-vapour progresses the colour of the spiral is changed from black (CuO) to red (Cu). The odour of formic aldehyde will be perceived if methyl alcohol is present in sufficient quantity. To detect methyl alcohol in tincture of iodine, it is necessary to remove the free iodine with a slight excess of sodium thiosulphate, before applying this test.

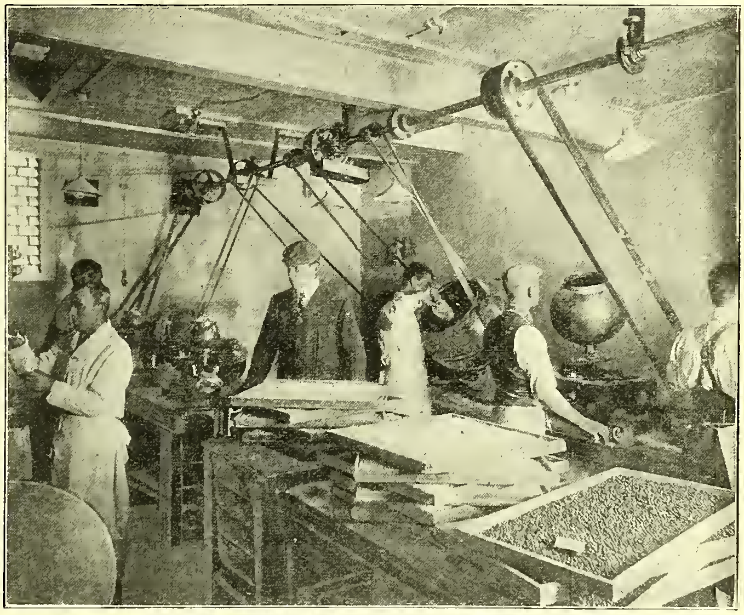
The Revolutions of a Pill.

BRIGHTON is the most noted health-resort in the wide world; it is, therefore, not at all anomalous that it should contain a large factory devoted solely to the manufacture of pills. We refer to that of Messrs. Arthur H. Cox & Co., which we recently had the opportunity of inspecting. Taking a northerly direction from the Pavilion, the fine church of St. Michael is reached after a few minutes' ride, and on the south side of that church is St. Michael's Place, where Cox's factory is situated. The exterior is quite unostentatious, a casual observer might indeed not see the entrance, and be unconscious of the fact that he was passing the premises occupied by the inventor of pearl-coated pills. The interior is extremely interesting to practical pharmacists as indicating the machinery and trouble that is involved in making pills on a wholesale scale. The compounding and massing room is on the ground floor. Here one sees the ingredients weighed out and massed into pills, either by hand or machinery. Drugs are bought in very large quantities and have to pass a strict scrutiny before being allowed to form part of a Cox's pill. The lever massing-machines work on beds of iron, the mass being tortured till it is in a state of perfect homogeneity. Colton's massing-machine is also in use, and reminds one of a mortar-machine in its action. One of the massing-machines is capable of finishing a hundredweight mass in twenty minutes. The machinery throughout the factory is driven by an electric motor, the current being supplied by the Corporation of Brighton. The rolling and finishing room is next examined. Here the pill-mass is put into piping machines (six of Pindar's are in use), and the piped mass transferred to cylindrical rolling apparatus. Either round or oval pills can be turned out, the different shapes being caused by variations in the depth of the grooves on the cylinders. The speed at which the cylinders run has also to be taken into account, a more delicate adjustment being needed for turning out oval pills. As the pills leave the rolling-machine they are placed in hoppers, which feed them into automatic rounding machines. The rounding process is almost human in its working, the peculiar concentric wrist-movement of an expert pill-maker being imitated to a nicety. In this process the pills are made into perfect spheres, and under or over-sized ones thrown out. The machines are adjusted for different sized pills. Blaud's pills are continuously being made, and monopolise one set of machinery. This fact speaks either for the excellence of the Cox formula or the exceptional anæmia of the population of the United Kingdom. Chiefly the demand is caused by the former condition, as the recipe was only arrived at after months of experiment and the spoliation of some hundredweights of mass. Several points in the manufacture had to be made the subject of special researches, but the main problems of producing an unoxidised pill from an easily-worked mass were ultimately arrived at. The coating-room is, perhaps, the most interesting of the whole series of rooms. Eight coatings each of microscopic thinness are given to pearl-coated pills, and it is a process which cannot be hurried. A day's interval is given between two coats, and to ensure perfect drying the trays of pills are placed in cupboards maintained at a temperature barely above normal. The pills, however, leave the coating-machines practically dry. Some years ago Mr. Cox prepared for exhibition purposes some pills in which each of the eight coats was of a different colour, so that on placing a pill in water it exhibited a chameleon change of colour as the several coats dissolved. It may seem superfluous to give the pills so many coatings, but it is the number of thin coats on the top of each other that causes the ready solubility of Brighton-made pills. White coating is the most popular, but any colour can be turned out; it is only a matter of using appropriately-coloured chalk. The proper colours to use required many experiments, as they must be both inert and permanent. The coating-machines revolve with a sort of figure-of-eight movement, but an entirely different motion is

The Compounding Department.

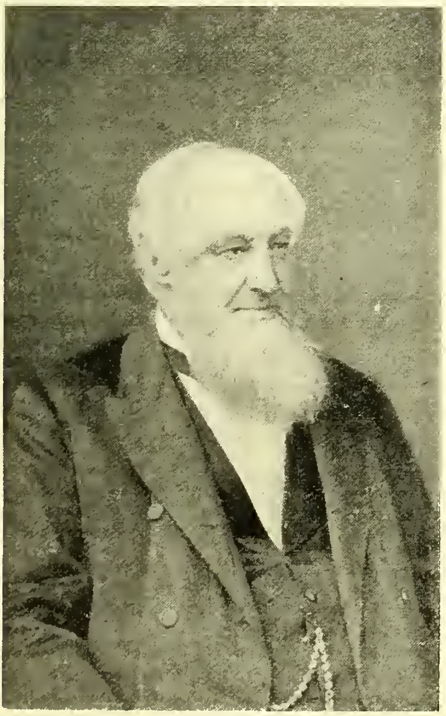


The Piping and Rolling Machines.



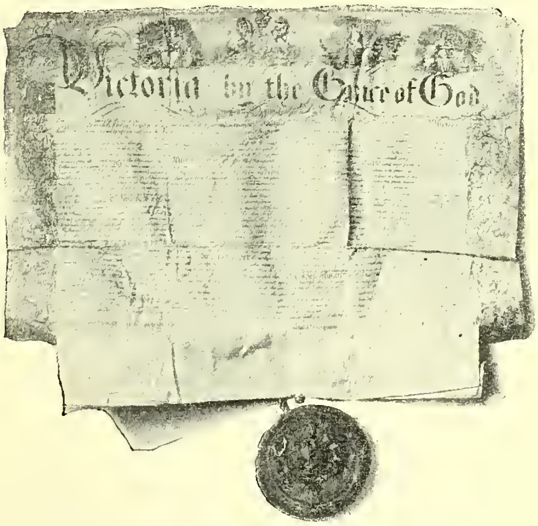
The Coating and Polishing Room.

given to the polishers. Polishing is done solely by attrition; some dispensers think wax or spermaceti is needed to give a high polish, but however necessary that may be for pills made on the small scale, attrition only is employed on the large scale. A ten-minutes revolution in a polisher turns out a batch of perfectly polished pills. A large pill-coater takes two hundredweight of pills at a time, and the noise made by the coaters and polishers can only be compared to the roar of the surf on a pebbly beach after a storm. The dispensers are all tried hands; some have been with the firm for twenty-five years, and one has just returned from South Africa, where, on active service, he had distributed insoluble metal pills to his country's foes. Gelatin-coating is done in the suction-machines, but not on anything like the scale that pearl-coating is done. In the stock-room the pills are stored in boxes on shelves, and a glance at the price-list gives an idea of the enormous variety kept. Counting-machines save time where pills are ordered by the gross and are absolutely correct, whilst a human counter is liable to error. Labels are stored in a big wall-cabinet on the railway-ticket system, a printing-press being used for printing a chemist's name and address on packed pills. Passing through the office to the showroom we gathered an idea of the numerous styles of putting up pills. Bottles, boxes, and tubes in all shapes and sizes are used, and in the case of Blaud's pills any colour and some half-a-dozen different styles are offered. A slide-out box, in which there are depressions to take the pills, is one of the newer ways of boxing quinine pills. We then fell to talking of the invention of pearl coating.



Mr. A. H. Cox, J.P.

Mr Arthur Hawker Cox, the inventor, who still takes an important part in the management of the business, will be 88 years of age in November, having been born in 1813 at Haymarket, London. Mr. Cox was apprenticed to his uncle, Mr. Perrin, of Northampton, and afterwards served as an assistant in Dinneford's at 180 New Bond Street. Mr. Cox started business as a chemist and druggist at Ship Street, Brighton, in 1839, soon afterwards starting experiments with a view to producing a covering for pills in place of silver. First experiments were made with gelatin, but afterwards the idea of producing a white soluble coating was hit on. With a growing business Mr. Cox often found it difficult to get time to carry out his experiments, and had to conduct his researches after closing time and on Sundays. At last a process was devised, which is practically the same as that used at present, except that machinery is employed. The process was patented in 1854, but, of course, has expired long ago. In fact, there is no secret about the process at all; the perfection reached is simply the result of practice and the experience of years. The original patent grant is here reproduced; it is engrossed on parchment, and the seal at the bottom of yellow wax weighs 2 or 3 lbs. The



Victoria by the Grace of God

The Letters Patent for Pearl-coated Pills.

invention "relates to a novel mode of coating pills and bolusses, and thereby rendering them tasteless to the palate when taken medicinally," and the various gums and resins used in the process are specified. The gums used were such as were capable of being readily acted on by the juices of the stomach, whilst French chalk, magnesia, or other innocuous powder are named as the coating-powders. When in business at Ship Street, Mr. Cox worked up a business in a proprietary antibilious pill; but, relinquishing the retail trade, he abandoned his proprietary pill, as he held it would not be quite fair to compete with retailers when he had entered the wholesale trade. The first factory was in London Road, but in 1871 it was removed to St. Martin's Place. The factory is in the same grounds as the private house, but a beautiful garden separates them. Mr. Cox spends much of his time in the garden, and drives out every day if the weather permits. Municipal affairs had a fascination for Mr. Cox up till recently. He was thrice Mayor of Brighton. We have before us some of the political skits in which Mr. Cox is portrayed in various attitudes. There is also a very curious letter received in 1880 from, it is supposed, an anti-vaccinator. It reads:—

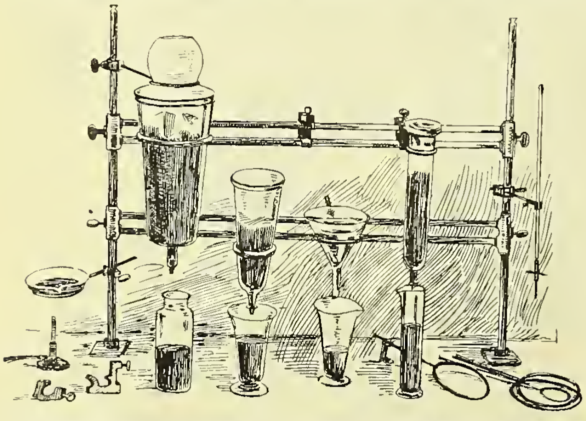
> Your vindictive and dastardly action in relation to the vaccination question has gone already too far. Four of us are prepared (if occasion demands) to suffer for the people. You are hereby given notice that unless you resign your position in this matter your life must pay the forfeit within two months from this date. You are considered by us a murderer, and as such we shall treat you.

A reward of 50*l.* was offered for the discovery of the writer of this threatening letter, but he was never discovered. Mr. Cox, as a magistrate, recently swore allegiance to Edward VII.—the fifth sovereign he has lived under.

Two of Mr. Cox's sons are managers of the pill business, but they are always glad to benefit by the ripe experience of their father.

Apparatus Stand.

Mr. J. Percy Remington contributes the following idea for a pharmacist's laboratory-stand to the *American Journal of Pharmacy*. The stand is constructed of two upright tubes of heavy iron, secured firmly at the bottom by counter plates. Two parallel, horizontal double tubes are arranged so as to slide up and down these upright tubes, and are secured by means of thumbscrews at each end. The ring clamps, instead of being all in one piece, as in the ordinary stands, are made in two parts, the clamp composing one part, and the rings, with 12-inch shanks, the other part. The shanks of the rings are passed through two openings in the clamps, and are made secure by thumbscrews. The clamps are of two kinds, those which slide horizontally on the double tubes, and those which slide vertically on the upright tubes. The shafts of the rings are all of the same size, so that they can be used with either form of clamp, the rings varying in diameter from 3 inches to 7 inches. The pattern of the ring clamps is shown on the left of the illustration, the clamps being specially designed for easy adjustment and strength.



At the Counter.

What is Blue-bell Oil?—A Birmingham subscriber is puzzled over this question. A request for three pennyworth of blue-bell oil staggered him the other day. He searched the authorities, and the nearest he could get to it was blue cohosh (caulophyllum). Perhaps some of our readers can supply suggestions.

A Trio.—"Agnemonia Wine" was inquired for recently at Watford; "Irapisha pills and powder" were demanded from Messrs. Broom & Reid, of Exeter; but "Parracide food" (conjuring up visions of paternal murder) could of course only come from Ireland—Mr. English, of Rathgar, being the sender. Mr. English (who, of course, is an Irishman, in spite of his name) promptly supplied Parrish's.

Magnesia, aloes, and diachylon are also invariable stumbling-blocks to the lay orthography. As thus:—"Panaga," "Sidred of magnisha," "Cast-iron macknesia," "Bitter allies," "Alice," "butter-alos," "Dyeathriano," "Dyaklum," "Dikulon." From various sources we hear of requests for "Hem bean sead, like a monkey-nut," "Bullock's earth," "2 pennyworth of electricity for to opone the bowels" (? Mattei or lenitive), "2*d.* worth of monkey's dung to make a horse eat," "Huxley's peruvian bork."

Neuralgia or Nerve?—The following was addressed to Mr. J. S. Sykes, of Plumstead. It wants beating as far as ingenuousness is concerned:—

> Please Sir, Mother bought this Tooth Ache cure in the Square. She says its no use. Will you analyse it for her. She says she gave 1*s.* for it. if you don't think it is good, will you empty it out and rinse the bottle to make it clean and then put in 1*d.* worth of your essence—Mother says she has had it many times and it always does her good.

Perhaps some of our other friends can go one better.

A Warning to the Fathers.—Chemist's son, aged 3 years, walking about with a slip of paper and a bottle in his hand, using dreadful language.

His Mother: "Oh, Charlie, surely I did not hear you saying wicked words?"

"'Oh, yes you did, mover. I am getting a man now, and going to talk like faver when he can't spell that bad witing of the old doctor; he says worse than I can 'member."

From Edinboro' Toon.—It comes as a rude shock to find that pharmacists in the classical Modern Athens have to wrestle with uncultured caligraphy. A dilapidated and dissipated-looking piece of paper (which had been originally pink) comes to us from a West-end pharmacist in the Scottish metropolis on which is written a request for "Ucutlupto Ool 1*d.*" From Mr. David McLaren's pharmacy in South Clerk Street, two variations of Epsom salts from the same customer proves that a printed label will not teach the thoughtless. The first essay was "Ips and Saus." This was supplied, and next day "epsom and saults" were called for. The latest headache-cure which Messrs. D. McGlashan & Co., of Dalry Road, have been asked to supply is "a penny fascinating powder."

Conversational Scraps.—Several subscribers have sent us samples of verbal orders let loose upon them. As follows:—

"A pennorth of Presbyterian chalk?"

"Can you tell me if the glass is rising or falling? Have you a glass? Do you think it will rain, as I want to go out?"

"Do you know of any well-advertised article spelt with the first five or six letters of the alphabet? I'm entering a competition in this book and that's one of the things I have to find out."

(These were non-customers, and during the dinner-hour.)

"A little garden-roller to make photographs with, please."

"Twopennorth of night-scratch?" "What is it like?" "It's a sticky stuff—a salve like." "Is it black?" "Yaas, that's it." Ung. picis given.

"Do you keep cooling-powders for adults?" "Yes, madam." "Oh! well you might give me two for four years now."

"A $\frac{1}{4}$ lb. of 'chloride-a-lime cough-lozenges,' there is some other names in it, I think."

The Problem of the Soros.

By AN AMATEUR BAGMAN.

THE sophist of Ancient Greece was wont to wile away an idle hour by debating on such points as "When is a heap a heap?" He piled stone on stone until you, at last, called "Soros." Then, as he calmly took away the last stone, he playfully asked you to explain why it was no longer a heap!

Like the old philosopher, I, also, have been asking myself when and why is a heap a heap? I have had occasion recently to call on chemists: where and why matters not, but I may just add that it was in connection with a scheme which, while it tended to please the æsthetic sense of the great British public, was also calculated to bring the chemist into enviable public notice, and, incidentally, to increase his business. The Americans say that a man is not in business merely for his health, and it would be well for the chemist who is apt to cavil at the present state of pharmacy in this country to remember this. During my peregrinations I had a chat with a chemist on this very point. "Of course," said he, "the conditions under which the business of a chemist are now conducted are very different from those which existed a few years ago, and they will probably change more still as time goes on; but," he continued hopefully, "I believe there is as much money to-day in the drug-business as there ever was if a man will only adapt himself to the altered conditions." The aspect of his shop, into which people were constantly coming and going, plainly indicated that he, at any rate, had successfully adapted himself to his environment, and that his Soros would probably fully meet his expectations. This type of chemist undoubtedly represents the great majority of pharmacists, but there are other types to be met with who are not so optimistic. Although one may, to some extent, sympathise with their grievances, one cannot help thinking that the cause of their pessimism is due largely to themselves.

I noticed that to this latter class belonged the man whose idea of what constituted the heap pharmaceutical was somewhat vague and nebulous. The Soros of his imagination was truly large, but was to be ready heaped for him by the labour of others.

"My dear sir," said one, "you have no idea how deceptive, from a business point of view, this neighbourhood really is; I was very much taken in when I came here." I suggested that, as the neighbourhood was a new and growing one, a chemist would, at first, be prepared to wait for business to develop. "Ah," he replied pathetically, "I have waited and waited for seven weary years, and I am tired of waiting; I think I shall sell the business." This brought to my mind the patriarch who waited seven years for the realisation of his aspirations, but I was always under the impression that Jacob relieved the tedium of his melancholy wait for Rachel by doing some sound practical work. I fear that my friend spent his leisure in lamenting the stubbornness of a Soros that refused to grow on its own initiative.

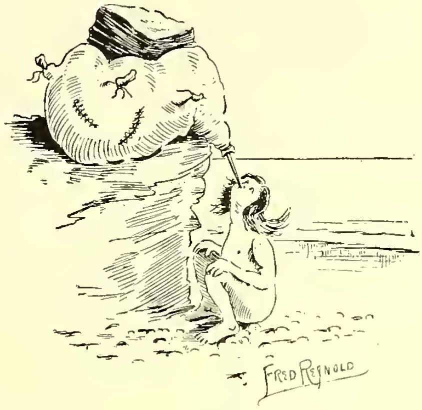
A somewhat kindred spirit was a rather eccentric character who refused to admit that even the vestige of any heap now remained. In a tone of raillery he repudiated the idea that anything could resuscitate his business now. "I've got no money to spend," said he; "why, we can hardly pay for bread and cheese. The drug-business, sir, has gone to the dogs, and those who ought to take an interest in us don't care a rap." "Why, believe me," he continued, oracularly, being now fairly wound up, "the Society's local secretary doesn't even know the men in his own district, and a member of the Council, who lives not a hundred miles away from here, is the worst of the lot." My friends tell me that I am a good listener, and I myself believe that this is a divine gift, and, being inherent, cannot be acquired. At any rate, it now stood me in good stead. The contents of the shop-floor being of a miscellaneous character, I sat on some syphon-cases and with a look of rapt attention waited for the flood of oratory to cease. Even an Irish member in the House of Commons must occasionally pause, and, taking advantage of a rhetorical interval in the chemist's declamation, I broke in again with the original object of my visit, and eventually succeeded in striking a bargain.

On another and somewhat similar occasion the same success was not achieved. The chemist was equally despondent business was bad, very bad; he hardly remembered it worse. He thought my idea was admirable; in fact, he had never seen anything of its kind that approached it, but for twenty-five years he had conducted his business without advertising it in any way whatever, and he thought he would not begin now. The ship might be leaking, and in imminent danger of sinking, but, take to the pumps—never! Perhaps he may awake some morning in a less lethargic frame of mind, and, looking around him, may find that the heap he had mournfully watched growing less, pebble by pebble, has vanished entirely.

Another chemist, who, otherwise, seemed a very nice fellow, appeared to be unable to decide upon the exact dimensions of a "Soros" without consulting his better-half. Apparently he was quite definite up to a certain height, but the last few pebbles seemed to stagger him. This gentleman had seen specimens of my work, and approved of it. He had almost decided to adopt the idea, but the final decision should rest with his wife. "Women have so much the better taste in these matters," he apologetically explained. I pressed him, as it were, to assert his individuality, and to cry "Soros!" but without avail; Mrs. Blank should be the final arbitress. Whether it was that poor Galen approached the judge in the wrong spirit, I cannot tell, and the veil of mystery that enshrouds that domestic colloquy will probably never be raised. I do know, however, that the investment was not made, and that in this case my heap was one pebble short. Perhaps, had I been enabled personally to interview the good lady things might have been different, for hitches are apt to occur even—in China—when the principal must be approached through a third party. In the Flowery Kingdom, I believe, when such negotiations fall through, it not infrequently happens that the two principals incontinently fall upon the poor "go-between," or, as an act of grace, he may be invited to come out and "do for himself."

What a vista this eternal woman question opens up, and what might we not write an we would! Perhaps some heroic member of a local chemists' association will one day read a paper on "The Wife as a Factor in Pharmacy," and mayhap the Editor will invite correspondence (strictly anonymous) on the same subject. It would be more entertaining, and perhaps more interesting, than erudite discussions on "When is a Standard not a Standard?" or "If I am prosecuted under the Food and Drugs Acts, should I stick to the B.P. or throw it overboard?"

Evolution of the Bottle.



I. PREHISTORIC (SKIN BOTTLE).

(The next phase of the evolution is given on a later page.)

"VETERINARY COUNTER PRACTICE."—"The book is a valuable one in not only the information it contains, but in throwing out numerous hints as to how the pharmacist may increase his trade in this particular field."—*The American Journal of Pharmacy.*

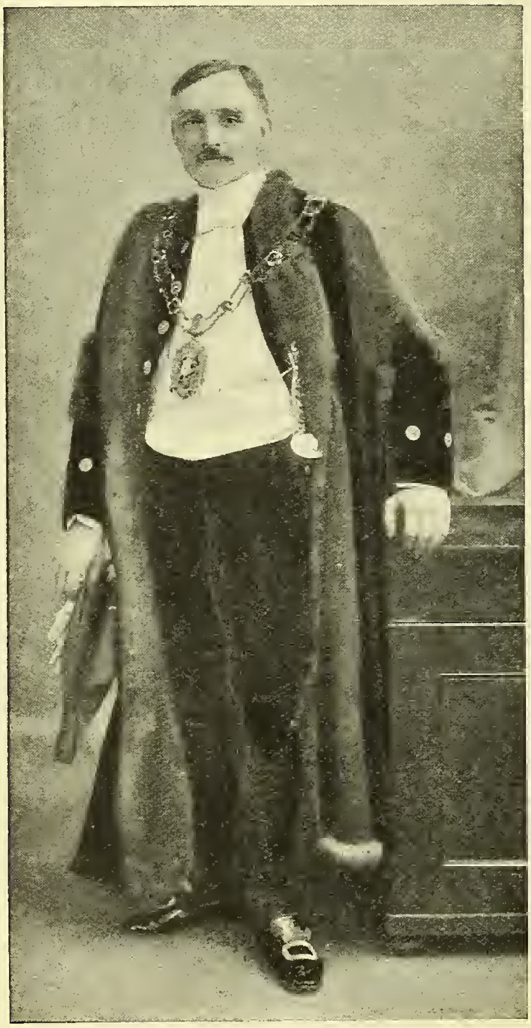
H H

George Claridge Druce, Hon. M.A. Oxon., F.L.S.

MAYOR OF THE CITY OF OXFORD,

PRESIDENT OF THE BRITISH PHARMACEUTICAL CONFERENCE.

IS the British Pharmaceutical Conference decadent? The question is suggested by the shrinkage in membership and income during the past fifteen years and reiterated rumours of approaching demise. Ascendant it is, nevertheless, in respect to interest actually taken in its proceedings, in the attraction which it affords to most of the best British workers in practical pharmacy, and in stimulus to pharmaceutical fraternity in whatever centres it visits. These factors in the sum of its existence are greater to-day than they were in 1871. No other pharmaceutical organisation in the United Kingdom has year after year drawn together so large and diversified assemblies of pharmacists as the Conference has done. It is the only pharmaceutical organisation with headquarters in London which can venture to the capital of Ireland as if it were its home.

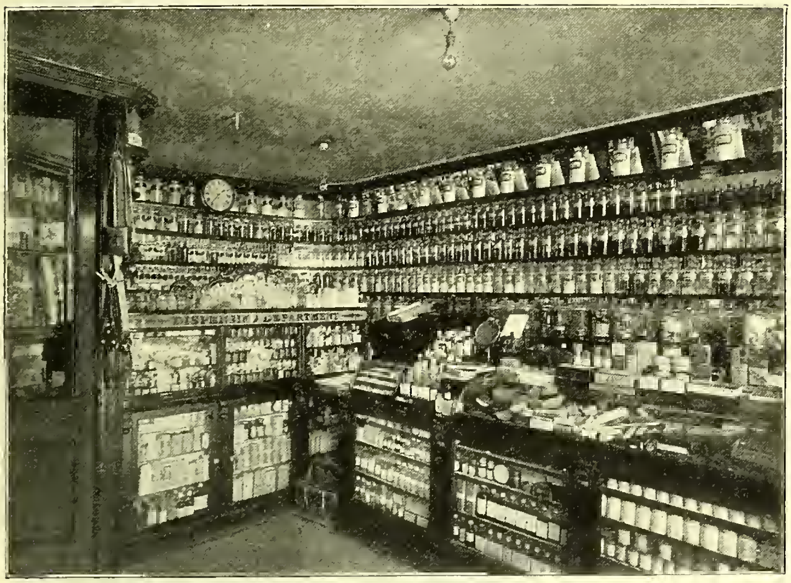


With all best wishes
I am Yours very Sincerely
G. C. Druce

It is easy to say these things, yet not so easy to compute the value of them to British pharmacy. Perhaps the Conference has erred in its conservatism. It was formed before the days of compulsory qualification in pharmacy, when a few ardent souls who dreamt of a professional basis for the craft, and desired to give their aspirations concrete expression, founded the Conference on British Association lines. Nothing better was possible then, but it has since been proved by experience that the qualifications that are hall-marked in examination-rooms are not the be-all and end-all of the pharmacist's knowledge, for without business aptitude and skill they do not make for the commercial success which is the logical conclusion of education. If it should be desired to give attention to "trade interests," to use an ancient and much-abused expression, we question if there could be a better time than the present for it, while

THE PRESIDENT

so admirably combines the business side of the calling with high scientific accomplishments. Rarely, if ever, has the Conference been so fortunate in this respect as it has been in this the opening year of a new century. To most of those who attend the Conference meetings Mr. Druce is a *savant*, with an exceptional gift of happy expression and infinite humour. Few know him as the everyday druggist, who has in England's most ancient seat of learning built up a prosperous business, by the familiar way of sticking to it, putting his pharmaceutical knowledge into it, and avoiding grooves. In any calling Mr. Druce would have been a success, for he is gifted with something of the volatility which was the late Mr. W. E. Gladstone's remarkable characteristic —the more things he has in hand, the better he seems to do each, and one is employed as a rest from the fatigue of another. Glance at his portrait: he is not exactly a youth, nor is he a confirmed old bachelor, yet how much has he done before his hair has altogether silvered! He has written floras of four counties, and has specialised in several genera of plants, so as to become a world-wide authority on them; he has served the city of Oxford publicly for a decade as Councillor, Chairman of the Sanitary Committee, Sheriff, and now Mayor, and all the time has been developing a business which he bought at the dregs, and has helped to serve pharmacy well as an examiner and otherwise. Mr. Druce was born and brought up in Northamptonshire, the home of St. Crispin, whom not worshipping he was made an acolyte to Æsculapius, as an apprentice to Mr. Philadelphius Jeyes, the brother of the disinfecting fluid inventor. This Northampton pharmacy was a notable one for the instruction of pharmaceutical aspirants, and by a series of fortunate circumstances Mr. Druce, before he had worn the apron two years, was promoted to the duties of senior assistant, and on completing his apprenticeship he was presented by Mr. Jeyes with a handsome Smith & Beck binocular microscope, and was appointed manager, a position which he held until he left to start in business. While thus escaping a good deal of drudgery he was thrown upon his "metal," and obtained a more intimate acquaintance with dispensing and with business matters than generally falls to a young apprentice. Mr. Druce looks back to these apprentice-days with the feeling that they gave him a thorough foundation in the principles of the art of pharmacy. He passed the Minor on November 15, 1871—those were the days when lads in their teens were admitted to the examinations. By passing with honours Mr. Druce was entitled to compete for the prize of books which at that time was offered to assistants. The prize was an ante-1868 encouragement to them to go on to the Major examination, and for some reason was discontinued in 1874. That it did good is testified by the fact that of the nine who obtained it several have since distinguished themselves. It is worth mentioning them. They were :—

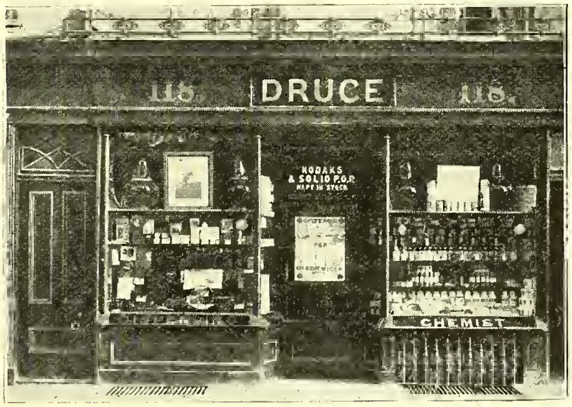


118 High Street, Oxford (Interior).

John T. Mayfield, Ph.C., 73 Finsbury Park Road, London, N. (1864).
John R. Wretts, Ph.C., 225 Oxford Street, W. (1866).
Matthew H. Stiles, Ph.C., Doncaster (1868).
John W. G. Candy, Ph.C., Wantage (1869).
E. A. Webb, Ph.C., Bartholomew Close, E.C. (1870).
Edward Rammell (1871) (not now on the register).
G. C. Druce, Ph.C., Oxford (1872).
Walter Tyrrell (1873) (not now on the register).
Arthur P. Luff, afterwards Ph.C., now M.D., Weymouth Street, W. (1874).

At the present time, when there is the greatest difficulty in getting young men to go forward to the Major examination, the Pharmaceutical Council might do worse than encourage Minor men a little more by prizes of this nature. The Major student is coddled a bit too much, and the Minor man's lot has been kicks, although he is the man who by examination-fees and subscriptions to the Society has made it an influential body. This is a digression, but so was the book-prize to Mr. Druce. It gave him Carpenter on the "Microscope," Lankester's "British Ferns," and Fownes's "Chemistry," all neatly bound, and they were an incentive to further pharmaceutical study at a time when business was onerous and inclination out of it all for the fields. So the books gave him that early recognition from headquarters which trains the mind to higher reaches, and he studied hard, until January 21, 1871, when he passed the Major also in honours. He began then to look round for a suitable place of business for himself, and the better to accomplish this he became for two months a gentleman at large. Whether the flora of Northampton proved specially attractive or not we cannot tell, but he had some inability in making up his mind as to where he would settle down: first this place attracted him, then that, but the beauty of the Thames Valley and the charms of the City of Spires with all its sense of culture led him to select Oxford, where he made a desperate venture in buying an old business at 118 High Street, which had sunk to the lowest ebb. The pharmacy dates back nearly two hundred years. The title-deeds of the old property show that early in the eighteenth century the ground lease was given on condition that the house was to be used as an apothecary's shop. This particular part of Oxford from the earliest times, has been devoted to those who have sold apothecaries' wares and perfumery. Mr. Druce's shop (he is Philistine enough to call it so) is double-fronted, and old-fashioned almost to pokiness, but every inch of the space in it has a business-purpose, and not an article in it ever crosses the counter at a cut rate. The photographs of the interior and exterior which Mr. Soames has taken for us make description unnecessary; at any rate, the journalistic formula for an article of this kind impresses us as inapplicable in this case, perhaps because the front shop is all "business," and the back shop an old-world parlour, through whose quaint bow window one glances over the bright little patch of garden to the tips of College steeples beyond. In the back are reminders of scores of invitations to the Mayor of the city to county functions and College feasts, cupboards of botanical specimens, and a delightful confusion of books which tells that there is no Mrs. Druce to disarrange the dear disorder. In the front one sees what the camera has caught, all the evidence of a good going dispensing and retail business, with three assistants to work it. One of the shop-windows is devoted to photographic apparatus, and the other chiefly to the business specialities. It is quite prosaic, and of all things in the world Mr. Druce is perhaps proudest of his smokers' antiseptic tooth-powder. A frameful of autograph letters on the shop-door, and several books of the same, with the postage-stamps of all nations, indicate that this eightpence-an-ounce article finds a place on toilet-tables wherever Englishmen and Americans go. We have said that it was the dregs of a business that Mr. Druce bought in 1879. He dispensed his hundred-thousandth prescription when we called there a few weeks ago, and there were other indications that the locality maintains its tradition as the mart for apothecary's wares.

In pharmaceutical matters pertaining to the calling as a whole Mr. Druce has not been idle during the past twenty years. He was elected a member of the Board of Examiners for England and Wales in December, 1881, and served ten years in that capacity. He has strong views as to the pharmaceutical examinations, being of opinion that the scientific subjects (botany and chemistry) have been diverted from the good traditional lines, which required candidates to show a sound knowledge of these subjects in their application to pharmacy. Should he ever be elected to the Council, as no doubt he will some day, he will endeavour to get reform in this matter, and he may be relied upon to take a



118 High Street, Oxford (Exterior).

place in the forward party, if such there be, for his sympathies tend towards the policy which would make the Pharmaceutical Society an organisation for the betterment of pharmacy throughout Great Britain, rather than the perpetuation of the assumption that the Society is a little gas-engine in Bloomsbury.

As a Botanist

Mr. Druce has done some remarkable work, to which we can scarcely do justice. Besides a "Flora of West Ross," which he prepared for the Royal Botanic Society of Edinburgh, and which was published in the *Transactions* of that body in 1894, he in 1886 published a "Flora of Oxfordshire," which is an octavo volume of over 500 closely printed pages; and in 1897 he followed it up with a "Flora of Berkshire" (844 pages). He is now engaged in writing for the monumental work entitled "Victorian County Histories" monographs on the botany of Northamptonshire, Berkshire, Buckinghamshire, and Oxfordshire, which will differ from his previous works in being of a popular character. We may recall the fact that our late beloved Queen accepted a handsomely bound copy of the "Flora of Oxfordshire," and by her command Sir Henry Ponsonby wrote to Mr. Druce on May 28, 1891, accepting the dedication of the "Flora of Berkshire," which reads as follows:—

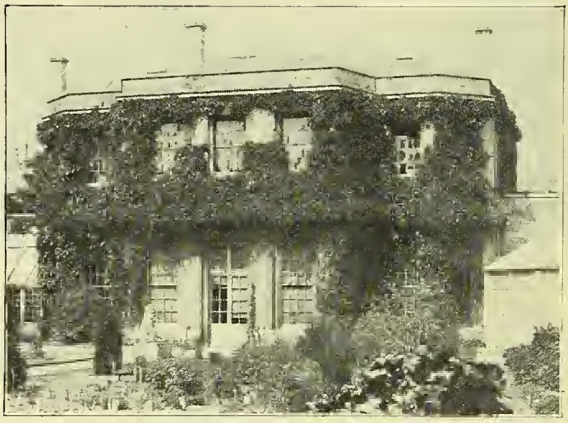
"To | Her Most Gracious Majesty | Queen Victoria | these investigations | into the flora of the Royal county | are by permission | dedicated | as the respectful tribute of a student to his Sovereign | in the sixtieth year of her beneficent reign. | MDCCCXCVII."

On June 4, 1889, the University of Oxford conferred the degree of Master of Arts *honoris causâ* upon Mr. Druce in recognition of his botanical labours. The oration which Dr. W. W. Merry delivered in presenting Mr. Druce for the degree deserves preservation in a journal of pharmacy, for it was the first and only one (as far as we are aware) spoken in Oxford with reference to a pharmaceutical chemist. It was as follows:—

> Duco ad vos civem Oxoniensem, Georgium Claridge Druce, probatum et eruditum virum, Societatis tum Linnæensis tum Pharmaceuticæ alumnum, qui multis in negotiis occupatus horas suas subsecivas in rerum naturæ investigatione tam feliciter consumpsit, ut
>
> "Quid quæque ferat regio, quid quæque recuset,"
>
> quæ propria sit herbarum florumque patria, quæ præsertim species in hac vicinia sint inveniendæ, nemo melius intellexerit nemo typis mandaverit accuratius.
>
> Quam quidem notitiam et cognitionem adeo non ceteris invidet ut rara liberalitate summoque studio in Universitatis nostræ usus conferre semper curaverit.
>
> Hunc virum et de Academia et de doctrina optime meritum spero vos hodie civitati nostræ libenter esse adscripturos.
>
> Oro ut admittatur ad gradum Magistri in Facultate Artium honoris causa.
>
> *Translation.*
>
> I present to you George Claridge Druce, a citizen of Oxford and a worthy and erudite man, member of the Linnæan and the Pharmaceutical Societies. Amid the cares of his business life he has devoted his leisure hours to the study of the products of nature with such success that he has attained surpassing knowledge of "what is suitable or unsuitable to every clime," what are the homes of plants and flowers, and especially the species which are to be found in this neighbourhood. Of his accurate knowledge his printed works are proofs.
>
> So far is he from keeping this store of learning to himself, that, with rare liberality and kindness, it has ever been his care to make it of service to our University.
>
> I hope that to-day you will readily admit among our body this gentleman, to whom both the University and Learning are so much indebted.
>
> I pray you that he be admitted to the honorary degree of Master of Arts.

The degree was at the same time conferred upon Selmar Schönland, Ph.D., sub-curator of the Fielding herbarium, now director of the museum at Grahamstown. When Dr. Schönland went out to South Africa, Mr. Druce was appointed to succeed him, but as curator of the herbarium, and his work in that practically honorary office is characteristic of his botanical erudition, his enthusiasm, and methodical working.

The Fielding herbarium is situated in the Botanic Garden of the Oxford University, which garden dates back to early in the seventeenth century. It was, until Professor Bayley Balfour altered it, laid out upon the Linnean system, and, as many of the plants had become, as it were, indigenous to the garden, the old style was full of historic interest to the botanist. A quainter old-world botanic garden cannot be imagined. It is entered from the High Street, opposite Magdalen College, and on passing through the fine old gateway one finds Professor Sydney Vine's class-rooms and laboratory on the right, and the Fielding herbarium on the left. The latter was erected by Dr. Daubeny in 1836 as a residence for the professor of botany, and is little to look upon, but within there are treasures unequalled. Here Mr. Druce has had a free hand since 1889 in arranging the herbarium and library. The latter is fine, and contains quite a number of rare MSS. and books—for example, a perfect copy of Sibthorp's "Flora Græca," a huge flora worth 250*l*., and Ferdinand Bauer's original drawings for it, besides the unpublished drawings of animals, birds, and fishes. These are priceless; no better-finished drawings from nature have ever been made. Sibthorp and Bauer spent eight years in Greece in the investigation (1786–94), and eight more in perfecting the work. Bauer's study of colour and form was marvellous in regard to *minutiæ*. Every bit of his drawing memoranda is treasured by Mr. Druce, who has been engaged during the past few years in collating the "Flora Græca" with present-day knowledge, and a MS. monograph of this research is ready for publication. Another bibliographic treasure in the house is the unique volume of plates to illustrate the writings of Dioscorides, each drug in the Dioscoridean medicamentarum being illustrated by a drawing, and each drawing bearing the name of the plant, animal, or what not, written by Jacquin. An Emperor of Germany (erstwhile Austria) had the plates for this volume made, and after two copies of the drawings were struck off he ordered the plates to be destroyed. His intention was that no body or place except himself and the Vatican should own the book. Fate has sent one copy to the Fielding herbarium and the other to the library of the Linnean Society. Mr. Druce has been peculiarly fortunate in rescuing several MSS. and sets of specimens from rubbish, and under his care the collection has taken orderly shape. The herbarium proper contains several collections apart from that of Mr. Henry Fielding, all of historic and individual interest, and much of the curator's time since his appointment has been devoted to undoing a previous attempt to amalgamate these historic treasures, as far as they were available, into a single working herbarium. The following is the chronological order of the individual collections:—



The Fielding Herbarium.

1. By Gregory of Reggio.—A collection of 300 plants of Northern Italy made in 1606. One of the earliest collections in Britain, and peculiarly interesting from the fact that the localities are given in many instances—a most valuable record. A contemporaneous copy of the labels is contained in the library. Mr. Druce has identified most of the plants.

2. By Jacob Bobart the Younger, who was an assistant in the Botanic Garden about 1670. Contains nearly 2,000 specimens.

3. By **Professor Robert Morison.**—About 5,300 specimens arranged according to his "Plantarum Historia Universalis Oxoniensis" (1680–1699). This was not arranged or probably even collected by Morison, but by Bobart.

4. By **M. Charles du Bois.**—Formed between 1690 and 1720, and contains 13,000 sheets. Originally arranged according to Ray's "History of Plants." Is particularly rich in East Indian plants.

5. By **Consul W. Sherard.**—A collection of over 14,000 sheets of plants from the four continents (1700–1726). Dillenius spent several years in arranging it, and Mr. Druce has restored it as far as possible to the condition in which Dillenius left it, as after that it was made to serve as the general herbarium, and received many unlocalised additions.

6. By **Professor J. Dillenius.**—This noted botanist was the first occupant of the chair founded by Sherard. His herbarium is a collection of British plants formed by himself to illustrate the edition of Ray's "Synopsis" which he prepared in 1724. Mr. Druce has gone over all the ground in Wales traversed by Dillenius, and has verified his observations as to localities; for it was questioned if Dillenius really found some of the specimens where he said. It is curious that some of Mr. F. Jansen Hanbury's new hawkweeds occur in this collection formed about 1724 which in many other respects is exceptionally interesting. Some specimens are in envelopes, others on pieces of wall-paper (here modern designers can get a few hints); a few playing-cards and many scraps of paper bear other specimens, and but a small proportion of the specimens are mounted (spongia chiefly). Localities are mentioned in a few instances only. The *musci* to illustrate Dillenius's "Historia Muscorum" are also preserved here.

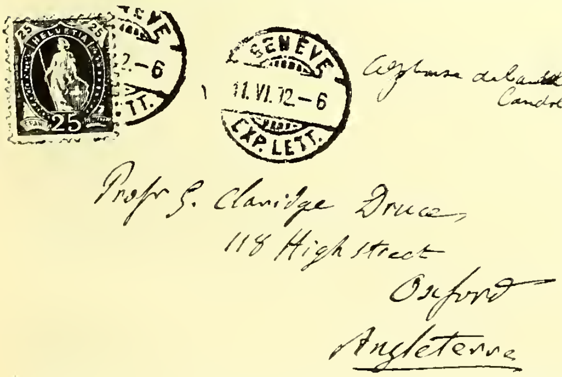
7. By **Professor John Sibthorp.**—The herbarium of over 2,000 specimens of plants collected on the mainland and islands of Greece in 1786–1794, and upon which the "Flora Græca" was based.

8. By **Dr. Shaw.**—A herbarium of 660 specimens of Barbary plants, collected about 1720.

9. The **General Collection** contains over 100,000 specimens of the world's flora. It is built up of several collections, and is being constantly added to by exchange and purchase. It has been completely revised by Mr. Druce, and rearranged so that the continents of origin are distinguished by the paper which encloses each specimen. These are as follows:—

European specimens in	*blue* wrappers		
Asian	"	*pink*	"
African	"	*orange*	"
American	"	*green*	"
Australian	"	*canary*	"

The specimens are, of course, grouped in their natural orders, and when one opens a cabinet a glance shows the distribution of species; a big splash of one colour tells how common an order is on one continent, and its sparsity elsewhere is shown by the thin strata of other colours. This collection is especially rich in European sedges.



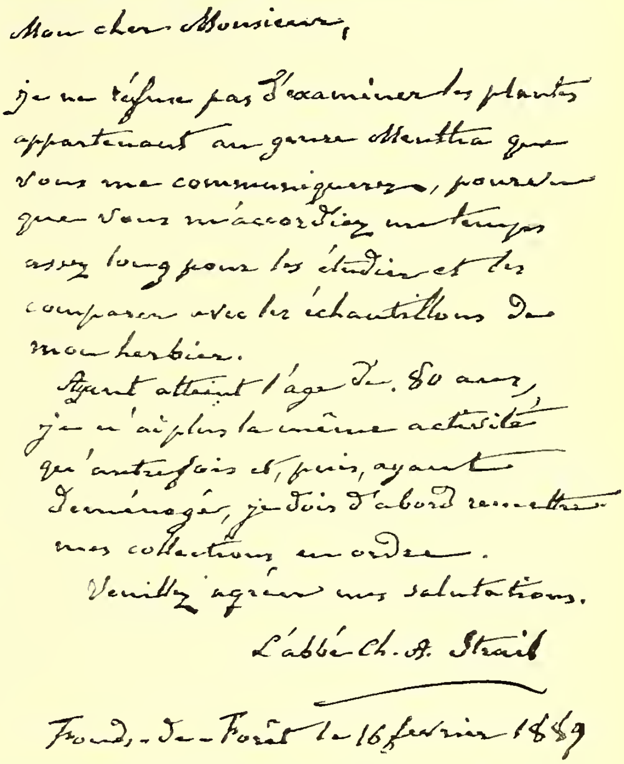
GENÈVE 11. VI. 92 – 6 EXP. LETT.

Alphonse de Candolle
Candolle

Prof. G. Claridge Druce
118 High Street
Oxford
Angleterre

The care of these magnificent collections has been Mr. Druce's pastime since 1889, and he has not been idle as regards his own herbarium, which is modestly ensconced in his shop-parlour. There are bigger private collections, we dare say, but there are few which are so well verified, because Mr. Druce has had all his critical specimens submitted to the best authorities in Europe. Thus they have a special value and interest. His correspondence is remarkable, and fills many portfolios. We picked out a few loose bits for reproduction. Above is an envelope which speaks for itself.

Mr. Druce makes no pretence to linguistic accomplishments, but letters in French and German testify to his ability to wade through these languages, and, after all, he has traversed Europe, and lived in the Highlands of Scotland, where nothing but "the Gaelic" is spoken. We also reproduce two postcards, one from the distinguished Swiss botanist, L'Abbé Itrail, and another from Dr. Murray, the dictionary maker, which is an excellent example of the trouble that is taken in compiling a dictionary. It happens also to indicate that the President of the Conference has a reputation beyond the confines of pharmacy and science. Some quaint old letters are in the collection, and there is an interesting MS. catalogue of plants first grown in Cambridge, dated May 20, 1657, and signed by one "Sa. Corbyn." It has references to Gerard's "Herbal."



Mon cher Monsieur,

je ne refuse pas d'examiner les plantes appartenant au genre Mentha que vous me communiquerez, pourvu que vous m'accordiez un temps assez long pour les étudier et les comparer avec les échantillons de mon herbier.

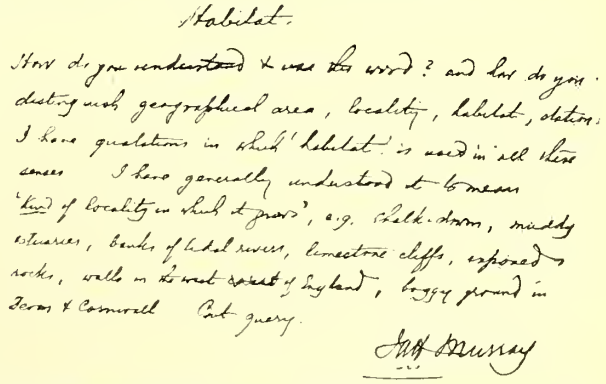
Ayant atteint l'âge de 80 ans, je n'ai plus la même activité qu'autrefois et, puis, ayant déménagé, je dois d'abord remettre mes collections en ordre.

Veuillez agréer mes salutations.

L'abbé Ch. A. Strail

Fond-de-Forêt le 16 février 1889

Mr. Druce's botanical collection is especially strong in sedges, grasses, and pondweeds. These are his greatest likings, and he has in some instances as many as a score of specimens of one species, all from different places and no two exactly like each other, but yet agreed by the best authorities not to be varieties. There is one particularly interesting pondweed, which Mr. Druce discovered one bright June day, 1893, in the Loddon. It has beautiful green leaves, and very pellucid parenchyma. He at first thought it was *Potamogeton natans* x *alpinus*, but it figures in the "Flora of Berkshire" as *P. fluitans*, of which Mr. A. Fryer thought it was an aberrant form. However, in 1899, having succeeded



Habitat.

How do you understand & use the word? and how do you distinguish geographical area, locality, habitat, station? I have quotations in which 'habitat' is used in all these senses. I have generally understood it to mean '*kind* of locality in which it grows', e.g. chalk-downs, muddy estuaries, banks of tidal rivers, limestone cliffs, exposed rocks, walls in the west coast of England, boggy ground in Devon & Cornwall. Cat. query.

JAH Murray

in obtaining it in fruit, Mr. Fryer definitely determined it to be a new species, and *P. Drucei* it is called. Nowhere else in the world is this pondweed known to grow except in the Loddon between Twyford and Loddon Bridge. We mention this "find" as a solitary example of numerous additions that Mr. Druce has made to the flora of Britain. His contributions to the Linnean Society have been numerous, one of the most recent being a suggestion for a better classification of British species of sea-thrifts and sea-lavenders, to the first of which he gives the generic name *Statice*, and to the second *Limonium*.

We can scarcely venture at this stage of the narrative to speak fully in regard to Mr. Druce's work as a writer; it must suffice to say that the "Flora of Berkshire" necessitated not fewer than 100,000 references besides the tedious search through the botanical specimens in the principal public collections. It was during this bibliographic research that Mr. Druce discovered that Elias Ashmole, founder of the Ashmolean Museum at Oxford, was a botanist. In a copy of How's "Phytologia Britannica" in the Bodleian Library he noticed such remarks as "found by me, E. A.," and on comparing the handwriting with that of Ashmole's diary in the British Museum it was found to be identical. Up to this time Ashmole's interest in botany was not well-known. The Ashmolean Society of Oxford was a strictly academic body when Mr. Druce went to the city, and therefore, he founded the Oxfordshire Natural History Society, which has done such good work and grown so strong that a few weeks ago the Ashmolean Society was amalgamated with it, and he entertained the united body on July 8 in token of the event.

Mr. Druce is an entrancing writer. His books are made to live, not necessarily to pay; consequently we find in them a prodigality of information regarding the geology, topography, and meteorology of the districts traversed; there are sparkling biographies of the authorities who have done service to the botanical cause which he deals with, and the particulars in regard to the plants constituting a county's flora are copious, and especially precise as to locality.

As a Citizen.

The governors of the city of Oxford have an unusual position to fill. The University owns a great part of the city, and the University authorities have a certain degree of jurisdiction. Their powers are ancient, and woe betide the man or corporation who would dare to meddle with the traditions of centuries. The relations between the Corporation and the University are therefore somewhat delicate, yet they are of the happiest.

Mr. Druce has been a member of the Corporation for nearly ten years, and filled the office of Sheriff in 1897. In November last he was elected Mayor, and has had a most busy time ever since. It is no sinecure the office of Mayor, and although the magnificent stipend of 50*l.* a year is attached to the Oxford chief magistracy, that really goes to meet certain charges which have nothing whatever to do with the Mayor.

One of the most notable events of Mr. Druce's year of office was the visit of the Australian Bushmen to Oxford. He met them at the station in his everyday quiet way, took them round the city and the colleges, showed them the best things and the unusual ones, talked to them about everything, lunched them, and what not; and when they were going off one of the troopers handed him, on behalf of himself and colleagues, Cronje's whip, which was taken at Paardeberg. Mr. Druce has framed it with a Kruger sovereign, from Pretoria, given him by the Duke of Marlborough, and the pen which he used to sign the first honorary freedom of the city—which was presented to Viscount Valentia, M.P., in a handsome silver casket by the Mayor. Was it not worth being Mayor to get relics of that kind? The portrait which we give of Mr. Druce is a memorandum of another event in his year's mayoralty; it was taken on the day that King Edward VII. received him at St. James's Palace, when he went there to express the esteem of Oxford for the Sovereign. If his fellow citizens persuade him to take another year of office, Mr. Druce may have something to do at the Coronation, but he has had such a busy time since last November that he begins to sigh for the indolence of the Orient. Even the week-end is denied to the Mayor. For example, a few weeks ago the writer just caught the Mayor after he had put in a couple of hours at magisterial duties. In the afternoon he represented the city at a parade of the Oxford Volunteers when medals were presented to those who had been at the front, and in the evening he presided at a dinner given to these patriots—doing it all with a charm of manner and felicity of speech which sufficed to show why Mr. Druce is a popular mayor. On Sundays the duties of his office draw the Mayor to the church of All Saints, where it is customary for a representation of the civic authorities to attend at the morning service.

These notes by no means exhaust the work of the President of the British Pharmaceutical Conference. Those who attended the meeting in Oxford in 1894 may recall how much he did to make that visit a pleasure, and at the same time he was working like a Trojan for the visit of the British Association, he being one of the local secretaries. The wonder is how he finds time for so varied accomplishments, and yet get the opportunity for a chat with an acquaintance, or a tour in the North of Africa with a friend. Perhaps it is merely the old story that the busiest man is the only one who has the knack of making leisure.

Recent Patents.

Dental Cement.—A. P. Tschirnenphal, St. Louis, Mis., claims protection for a slow-hardening dental cement composed of liquid and powder, such as the following, which the inventor says answers admirably:—

Phosphoric acid (sp. gr. 1·69) ...	1 oz.
Zinc oxide	160 gr.

Dissolve, and add—

Water of ammonia	2 dr.

and evaporate to the density of 1·945.

The powder used with this is—

Zinc oxide	4 parts
Tin oxide	6 parts
Aluminium oxide	2 parts

(22,230, 1899.)

Briquette.—J. Paucheur, Rue des Longs Chariots, Brussels, has obtained a patent for combustible briquettes composed of coal-dust 80 per cent., neat petroleum 17 per cent., and molasses 3 per cent. (13,707, 1900.)

Camphor Pinyl Oxalate and Formate.—The Ampere Electro-chemical Company, Jersey City, U.S.A., have patented improvements in the processes for the production of camphor pinyl oxalate and pinyl formate. The process is as follows:—Five parts of anhydrous turpentine are mixed with 1 part of anhydrous oxalic acid, and the mixture heated to about 120° C. to 130° C., when a reaction takes place between the turpentine and the oxalic acid. The resulting product is a mixture of borneol, borneol oxalate, borneol formate, camphor, and waste polymerisation-products. This mixture is treated with caustic alkalies, such as lime, in excess, which breaks up the ethereal salts or borneol into a mixture of camphor and borneol, with impurities. The product is distilled to separate the borneol and camphor. The mixture is then oxidised to convert the borneol into camphor. Potassium dichromate with sulphuric acid may be used for the oxidising-agent. (14,754, 1900.)

Fire-kindling Substance.—E. Jörgensen, Laget, near Risör, Norway, obtains protection for the idea of mixing petroleum with infusorial earth to make a pulp suitable for kindling fires. (15,018, 1900.)

Artificial Silk.—A. Petit, 19 Rue Cambon, Paris, has obtained a patent for an artificial silk obtained from a mixture of about 100 lbs. dry nitro-cellulose, 7 lbs. indiarubber solution, 5 lbs. stannous chloride and benzene, or other solvents, a sufficiency. The mass is squirted through dies to form threads. (15,343, 1900.)

Fuel.—Kate Hobson, North Carlton, Vic., with the idea of utilising some of the vast quantities of waste paper, has invented a fuel composed of paper 30 parts, slack or other coal 3 parts, resin 1 part. The patent obtained for this directs the mass to be compressed and pierced with holes. (15,278, 1900.)

Preserving Horseradish.—A. Friedheim, Cellerstrasse, Hanover, has obtained a patent for preserving horseradish. The cleaned roots are shredded, the juice expressed, and the filtered juice sterilised. The dry mass is put into bottles, and there is poured over it, in the proportion of 1 to 10, a solution containing, horseradish-juice 5 per cent., sterilised vinegar 4 per cent., and sugar 1 per cent. A trace of formic acid is then added, and the preserve sterilised at 60° C. for five minutes. (15,509, 1900.)

Putty.—H. Lesser, Lothian Road, Brixton, S.W., makes a refined linseed-oil putty, whose "novelty is its elasticity and durability." The patent-product is made by mixing pure linseed oil 1 ton, gilder's "whitening" 9 tons, and white-lead 2½ cwt. (16,829, 1900.)

Disinfectant-tablets.—R. H. Gordon, chemist and druggist' Dennistoun, N.B., has procured a patent for a disinfectant made of —

Sulphate of lime	℥ij.
Carbolate of camphor	ʒj.
Carbonate of ammonia	ʒij.
Carmine	gr. j.
Strong ammonia solution	ʒij.
Water	ʒviij.

The mass sets after it has been mixed. (15,979, 1900.)

Disinfectant.—D. M. Kelsey, Woodlawn Avenue, Saratoga Springs, U.S.A., patents a disinfecting-compound substantially in the following proportions:—Hydrated calcium sulphate 17 parts, charcoal 2 parts, dried peat 1 part, sulphur $\frac{3}{10}$ part, ferric oxide $\frac{1}{10}$ part, crude phenic acid $\frac{1}{25}$ part. (17,713, 1900.)

Picric Acid.—A. Gutsensohn, 90 Park Street, Limehouse, E., has acquired the rights of manufacturing picric acid by dissolving the required quantity of carbolic acid in paraffin or similar oil, and adding to the nitric acid which has been covered with a layer of the same oil. (16,628, 1900.)

Indiarubber - substitute.—Dr. E. Zuhl, Berlin, has obtained protection for an indiarubber-substitute, the following being an example of the method of producing a substance "very similar to guttapercha":—Melt 2 kilos. of paraffin with 6 kilos. of pitch, add 2½ kilos. of Chinese wood-oil, and stir till homogeneous; 1·1 kilo. chloride of sulphur is then slowly added, followed by about 100 grammes of pulverised sulphur, the mass being finally heated for an hour at 160° C. (18,536, 1900.)

Burn-application.—J. C. Innes, Grosvenor Road, Ilford, has obtained a patent for an "entirely new combination of pharmaceutical remedies" for applying to burns and scalds. The antiseptic emulsion is composed of liquefied carbolic acid 1 part, eucalyptus oil 2 parts, olive oil 23 parts, and lime-water 24 parts. The specification gives detailed instruction for treating burns and scalds. (19,030, 1900.)

Glass-polisher.—A. E. Joyner, oilman and grocer, 165 City Road, S.E. (*sic*), invented a composition for polishing glass, and the like, for which he has been granted a patent. The powder is composed of fine pumice powder 14¾ oz., fine gilder's whiting ½ oz., and exhibition red ¾ oz., in or about the proportions indicated. (18,841, 1900.)

Blood Preparations.—Max Dietrich, chemist, and Dr. A. Langer, Friedrichsberg, Berlin, propose a method of making a non-hygroscopic blood-albumen preparation containing a large quantity of easily resorbent iron, for which a patent has been granted. The method depends on the use of calcium compounds: 0·5 to 2 kilos. of calcium oxide is stirred with 100 kilos. of blood, and stirred till thickening occurs. The calcium oxide in excess is deposited and is separated, whilst the blood compound formed is dried at 60° C. *in vacuo*, and powdered. (19,141, 1900.)

Fireproofing Wood.—G. F. Lebroda, Boulogne, obtains protection for a mode of fireproofing and rot-proofing wood. The solution, which is composed of ammonium sulphate 25 parts, borax 4 part, boric acid 4 parts, and water 100 parts, is applied "by sprinkling, immersion, painting, or any other suitable manner." (19,515, 1900.)

Soluble Sulphurised Hydrocarbons.—Dr. S. Frankel and A. König, Vienna, patent a way of rendering natural or artificial sulphurised hydrocarbons soluble in water by mixing them with soaps, or alkali salts of fatty oleic or resin acids. (19,406, 1900.)

Celluloid-like Body.—E. Zühl, chemist, 95 Belle Alliancestrasse, Berlin, protects a method of producing a celluloid like body in which the camphor is wholly or partially replaced by methylnaphthylketone, dinaphthylketone, methyloxynaphthylketone or dioxydinaphthylketone. The following is one of the four specimen methods given in the patent specification:—One kilogramme of methylnaphthylketone and 2 kilos. of nitrocellulose are mixed, with the addition of a solvent, which will cause a combination such as methyl alcohol, and treated according to the methods customary in the manufacture of celluloid. (20,733, 1900.)

Fluted Funnels.—A. S. Rayner, Police Station, St. Ives, has obtained a patent for improved funnels. The funnels have a grooving or fluting in a longitudinal direction to form an air-passage. (20,283, 1900.)

Incrustation-composition.—J. Garside and J. G. and A. Saxon, Examiner Buildings, Strutt Street, Manchester, have patented a composition for preventing incrustation in steam-boilers. The composition is made by mixing 1½ oz. of graphite or plumbago with 1 lb. of palm oil. (19,734, 1900.)

Spectacle-attachments.—D. Rugg, Parnell, Auckland, N.Z., has obtained a patent for the application or attachment of caoutchouc or indiarubber to the parts of spectacle-frames which come in contact with the skin. The idea is to make the spectacles hold more firmly to the skin, and be more comfortable to wear. (21,755, 1900.)

Poultry-food.—Nina Mayer, Kingston-by-Sea, Sussex, has obtained protection for an improved poultry-food which she has invented. The food is composed of crushed acorns (1), crushed linseed (1), powdered mushrooms (¼), and sharps (2). The figures indicate the most suitable proportions. (21,795, 1900.)

Improved Liquid Paste.—W. Häckel, A. Heinrich, and C. Gumpricht, Breslau, obtain protection for the following:—

Waterglass (sp. gr. 1·37)	100
Borax	4
Natron (sp. gr. 1·33)	2
Talc	2
Whitning (*sic*)	2
Borax	4
Boric acid	2
Siccative	2
Dextrine	8

Warm together on a water-bath with stirring. Leave to cool down for a few days, and pour off from the sediment.

(20,528, 1900.)

Evolution of the Bottle.

FRED REYNOLDS.

II. Egyptian Clay Bottle.

(The next phase of the evolution is given on a later page.)

The exports of sandalwood from Western Australia during 1900 were valued at 39,038*l*, against 29,719*l*. in 1899 and 31,812*l*. in 1898.

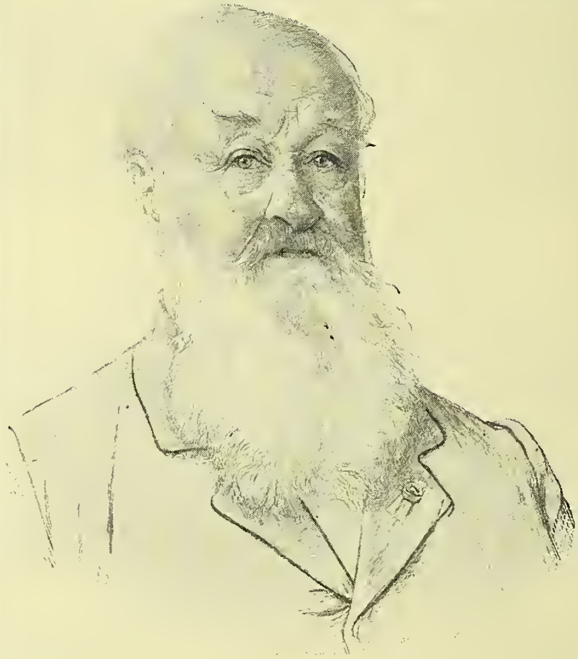
Cinchona and Quinine in Java.

Based on an interview with and memoranda supplied by Mr. F. L. Seely, St. Louis, Mis., in regard to his recent journey of investigation in India and Java. The illustrations of Java scenes are reproduced from photographs taken by Mr. Seely.

JAVA is generally supposed to have come later into the cinchona-field than Ceylon and India, and some say that Java started where the British dependencies left off—not an uncommon thing with Britain's trade-rivals. But this is scarcely the case. As early as 1829 the cultivation of cinchona in Java was mooted, but it was not until 1852 that the Dutch Government sent Hasskarl, who had been director of the Botanic Gardens at Buitenzorg, to Peru and Bolivia, where he got with much difficulty seedlings that he took to Java, but these did not come to much. In 1855, Dr. Franz Junghuhn, an eminent Dutch botanist, was sent to Java with a number of seedlings, commissioned also in the following year to superintend the cinchona culture. Junghuhn was one of the most diligent workers in the field up to the sixties of the nineteenth century, indeed, by the end of 1860 there were about a million cinchona plants in Java, but 939,809 were the comparatively valueless *Cinchona Pahudiana,* which had been propagated from the seeds of *C. ovata* brought from South America by Hasskarl, and renamed after Pahud, Governor General of the Netherlands India. Dr. J. E. de Vrij was sent out to Java in 1857 as a chemist, but he was really the man who recognised that the future of cinchona-cultivation in Java depended upon the adoption of the particular kind of calisaya that Charles Ledger had obtained in South America, and which is now known by the generic name of the man who risked his life to get the seed. Ceylon and India might still be the centres of profitable cinchona-cultivation had the British Government realised that Ledger's work was the consummation of a long and expensive inquiry; but the Dutch Government, thanks to De Vrij, was sufficiently fortunate to try the new seed well, and within twenty years planters had proved that *C. Ledgeriana* (at first regarded as a rich calisaya) is the tree best worth cultivating. De Vrij's great service to quinology was the early recognition of the necessity for cultivating plants with a high quinine yield.

Charles Ledger,
Who risked his life to get the famous cinchona-seed.

The Island of Java is only 673 miles long and about 125 miles wide. About 25,000 acres of the island are under cinchonas. There are 25,000,000 natives in the island, and only two of them speak the English language. The first thing Mr. Seely did was to secure the services of one of these men, whom he kept through his visit. He was a very accomplished young man, and somewhat of an aristocrat as compared with his countrymen. His main accomplishment lay in the fact that he had two wives, and he claimed that for a man to be a sincere Mahomedan he should have four, if his means permit. He explained to Mr. Seely, however, that one wife did not know of the other's existence, and he was quite confident that matters would run somewhat smoother if he maintained that ignorance on their part. The day after Mr. and Mrs. Seely arrived they proceeded to Bandong, which is about eight hours' ride from Batavia, at which port they landed. It is a delightful little town of about 1,000 Europeans and probably 60,000 natives, and the hotel was as



The Late Dr. J. E. de Vrij.

The Club-house at Bandong.

comfortable as any one could hope for. Nearly all houses in Java are one storey high, and, in the case of hotels, only one room wide, and sometimes a mile long. This is to prevent serious injury in case of earthquakes, which are common out there.

A Planter's Home.

This is a dwelling, twenty-three miles from Bandong, occupied by Mr. R. E. Kerkhoven, a graduate of a University in Holland. Mr. Kirkhoven has resided here for a quarter of a century, and has cleared 500 acres of the jungle, which is now covered with cinchona-trees.

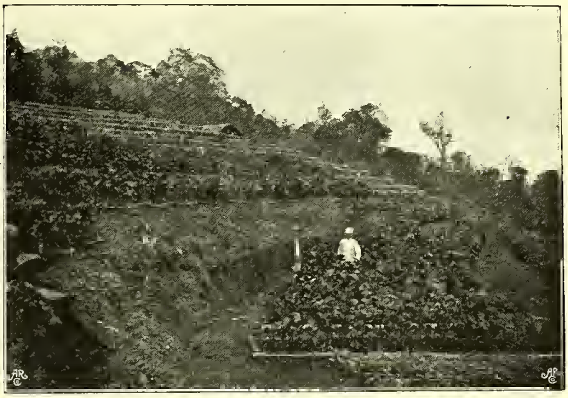
Bird's-eye View on Cinchona-plantation.

In order to get this picture, Mr. Seely had a tripod 40 feet high constructed from bamboo-trees. To the top of this he mounted with his camera, and this picture, which includes the dwellings occupied by the natives and European manager, is the result.

Headquarters of the Dutch Government Plantations at Lembang.

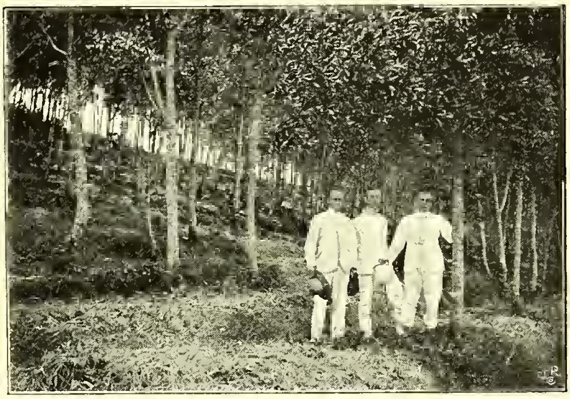
The Dutch Government is assiduous in its encouragement of cinchona-culture, and has plantations of type cinchona from which seeds are annually obtained and sold to planters.

After resting for a few days Mr. Seely made trips to the plantations, which lay in different directions around Bandong, ranging from 9 to 30 miles distant, all of which had to be covered by pony-carts, pony-back, or in mountain-chairs each carried by four natives. Cinchona was seen growing in all its stages, beginning with the seed and the



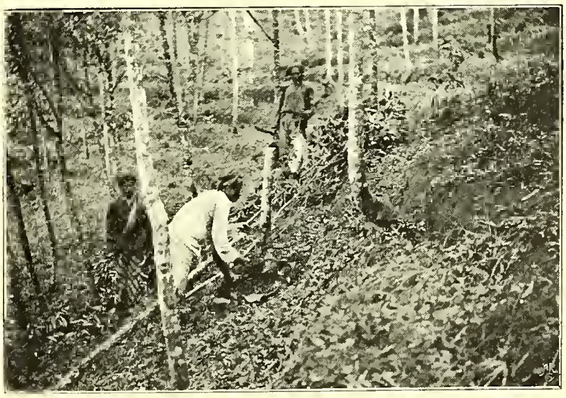
A Cinchona-nursery.

Here the seedlings are reared until ready for grafting—Ledger twigs on succirubra stems. Mr. Van Leersum, the Director of the Government Cinchona-plantations, is the figure in white.



A Matured Cinchona-plantation.

The Ledger trees here represented average 10 per cent. of quinine sulphate in the bark. Mr. Van Leersum is the figure to the right and Mr. Seely is standing in the middle.



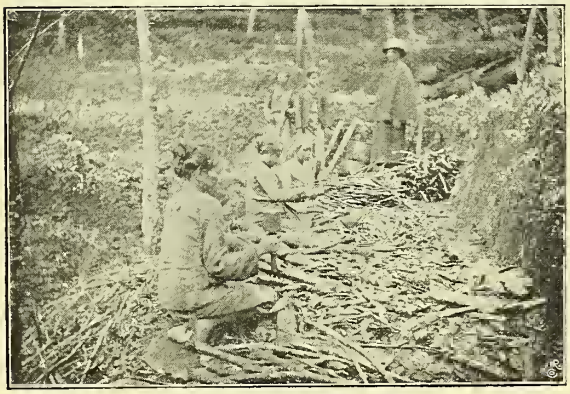
Cutting Ledger Cinchona-trees.

Cinchonas are no longer " barked ", as they stand, but usually cut down and the roots unearthed. The bark of the roots is very rich in quinine. At least one seedling is planted for every tree cut down.

little plants just above the ground, to immense forest trees which have been allowed to grow for nearly half a century, and some of which are 100 feet high, and could not be spanned more than half-way round by the embrace of a full-grown man.

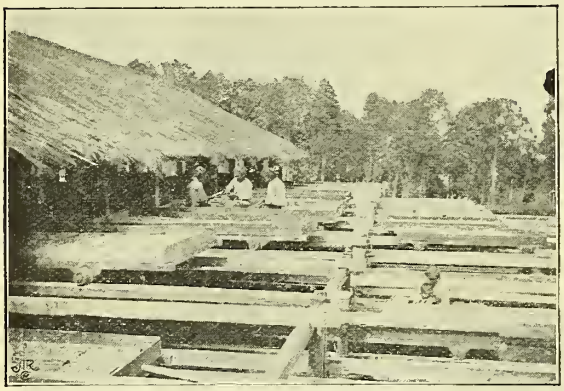
Over 20,000 trees grew from Ledger's seeds, and a large number of the trees are still standing, as is evident from one of the photographs. These trees have been allowed to go to seed, and are simply used for their seed, as they are now about 45 years old, and a tree is harvestable at six years.

The seed is planted in what is known as the nurseries (see page 165). Both Ledger seed and succirubra seed are planted. When the latter seedlings grow to a height of about 3 feet they are cut down close to the root, and a Ledger shoot about 6 inches long is grafted to each. This is covered up with wax and bound with a piece of banana-leaf, whereupon, after a short time, the wound heals and the little Ledger shoot comes out in leaf; then the tall top of the little succirubra tree is cut off, and we have the completed combination ready to be transplanted in the forests. This is one of the most important events in the life of the cinchona-tree in Java—the bit of scientific culture which has enabled Java to outstrip the world in cinchona supply. It is done because the Ledger plant does not grow well in the soil, while the red-bark tree flourishes exceedingly. It is a wise procedure to graft the rich Ledger top on the poor succirubra-root, for the Ledger bark is so rich in quinine that as much as a fourth of the weight of the dry bark has on rare occasions been quinine sulphate.



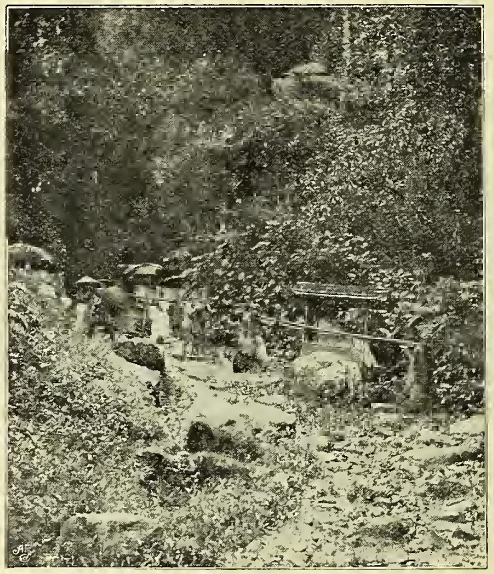
Barking the Stem and Twigs.

After the trees are cut down, they are cut in short lengths, and the bark removed by native women in the manner shown in this picture.



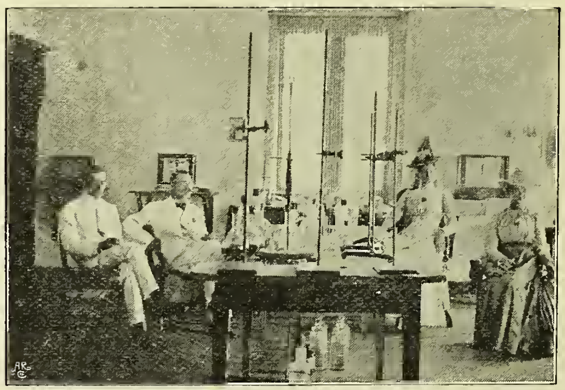
The next stage in the history of the bark is the drying. This picture shows how fine quill bark is dried in the sun.

The so-called cinchona "forests" are clearings made from the jungle, and the ground is kept clean from weeds and rubbish by diligent gardening. The trees are planted in rows systematically, and the ground is so worked that the rains penetrate to a great depth. The trees are allowed to grow until the sixth year, when they are ready to be harvested. The old system of harvesting was to peel the bark off the trees. This is no longer done, but each tree is sawed off at the roots, divested of its bark, and a new tree planted near by. It has long been a familiar *canard* in commercial circles that the Java planters had tired of their work, and were uprooting the trees in order to put tea in their place. It will be seen that Mr. Seely's observation proves exactly the opposite; they uproot because it pays. The new trees grow to the harvesting stage nearly as soon as the bark would grow on again, and the trees are much richer in quinine than renewed bark.



In order to reach the cinchona-plantations, some rough roads have to be traversed. This picture shows a party of carriers conveying Mr. Seely and Dr. Van Linge, the manager of the Bandong factory, through the jungle in mountain-chairs.

After the trees are hewn down and cut into short lengths native women beat the bark off the pieces. The wood is dried and used to heat the ovens in which the bark is dried. The drying, however, is largely done in the sun before the bark is put into the ovens, and the quilled or pharmaceutical bark is usually dried entirely in the sun, the native women and children sitting in the drying-trays and tying the bark into pipes while it is green and pliable. After the bark has been thoroughly dried it is coarsely ground, usually by water-power,



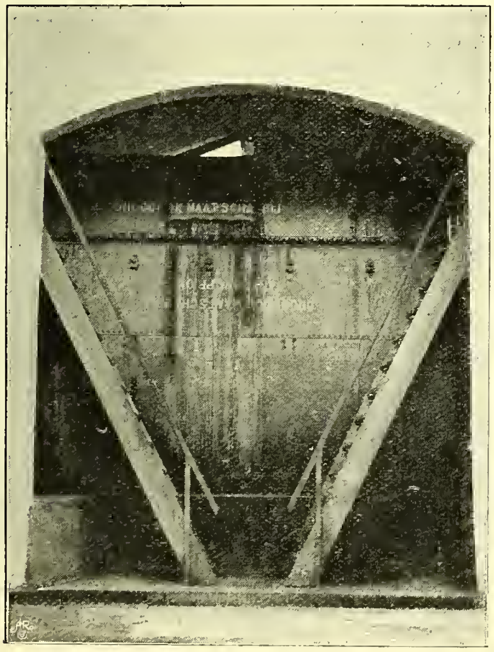
Mr. Van Leersum's Laboratory.

This is an apartment in Mr. Van Leersum's private residence in Lembang. All samples of bark from the Government plantations are here assayed by the Government Director. The figures are (from left to right) Mr. Seely, Mr. Van Leersum, Mrs. Van Leersum, and Mrs. Seely.

Bandong Quinine Factory.

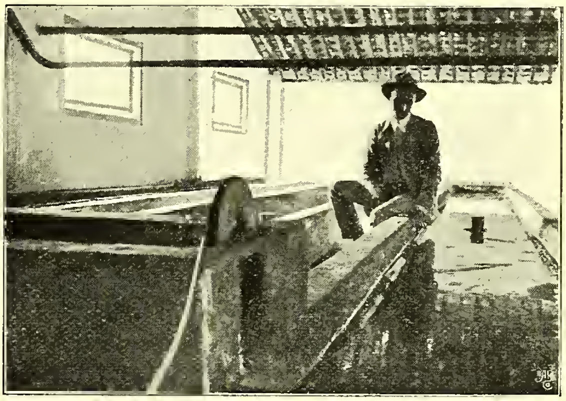
and it is then packed tightly in bags of 100 kilos. each; these bags are sent to Amsterdam (90 per cent. of the Java bark going there), and the remaining 10 per cent. is mainfactured into quinine at Bandong. This 10 per cent. yields 1,000,000 oz. of quinine per year, and will very soon be increased to 2,000,000 a year.

Mr. Seely found the Java quinine-factory to be particularly attractive, as his own business-interest in quinine is equal to the annual output of the factory. It was a surprise to him to find so finely equipped a laboratory, and especially to receive from managers and owners such courtesy as belied the current tales of mystery about the Bandong works. Most people know that the manufacture of quinine has always been treated as a very profound secret, and probably there is not a quinine-factory in the world, outside Java, where a stranger would be permitted to learn anything of the process of manufacture. For this reason it was naturally difficult for the Bandong works to secure chemists who were conversant with the manufacture of the article, particularly on account of their being so far removed from civilised countries where chemists usually are found. In the first instance, the Bandong factory was placed in the hands of a man who was not familiar with the manufacture of quinine, though he had had a large experience in sugar-making, and was otherwise a man of scientific attainments, so the quinine first produced was not up to commercial standard. The enterprise went through a trying experience for about three years, and, although it was a hard struggle, it continued to exist and to manufacture quinine—such as it was. The owners were



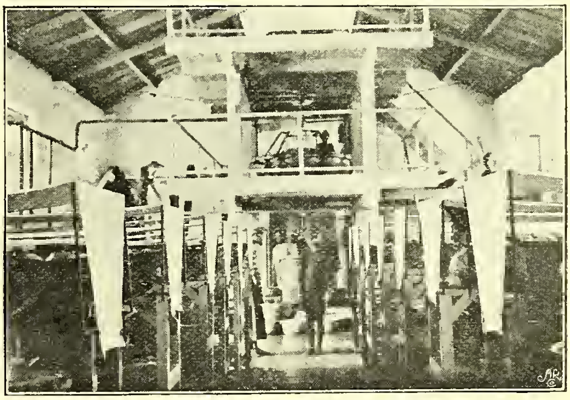
Cinchona-digesters.

After the bark is crushed, it is mixed with alkali and filled into enormous digesting tanks, in which it is stirred up with crude petroleum.



Crystallising-vats.

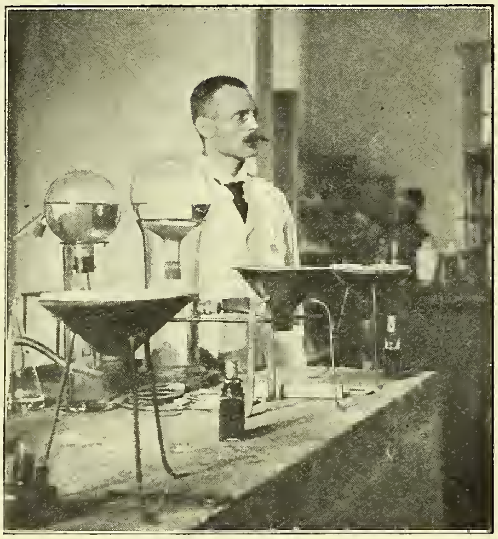
The petroleum solution of cinchona alkaloids is next treated with dilute sulphuric acid, after which the aqueous liquor is drawn off and run into these huge tanks, where it is crystallised.



Quinine-purifying Room.

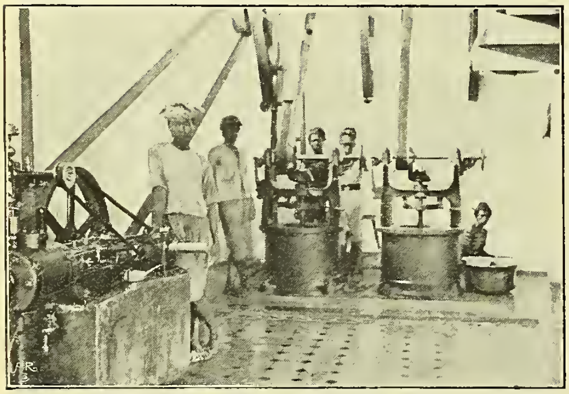
The crude quinine sulphate is next recrystallised in this room.

fortunate, however, in securing the services of Dr. A. R. van Linge, who had studied under Dr. de Vrij, as manager and head chemist for the Bandong factory. He is the moving spirit of the enterprise now, and not only has he perfected the processes of manufacture, but has invented and personally supervised the construction of the machinery and apparatus used in the works.


Dr. A. R. van Linge,
Technical Manager of the Bandong Quinine-works. He was educated in Holland, and studied under Dr. de Vrij.

Mr. Seely saw about 4,000 oz. of quinine made per day, which he could not distinguish when placed among the best-known European brands, and, in addition to this, every lot of quinine the factory manufactures is tested by the director of the Government plantations, and he was present at one of these examinations, where he saw for himself that the samples were above the requirement laid down in the Pharmacopœia. The quinine is sold at open auction.

A word as to the process of manufacture. When the bark reaches the factory every parcel is assayed, and the natives mix the various lots so that an average strength of alkaloid is represented in each day's work. Tons of bark are ground up every day and sifted by very improved machinery, after which it is moistened with an alkali and pumped into immense digesters containing hot crude petroleum. There are agitators inside the digesters, which mix the bark well with the oil, and the oil extracts the alkaloid which the alkali sets free from the bark. The bark is then allowed to settle out, and the oil is decanted off and washed with sulphuric-acid water, which again takes the alkaloid from the oil. The oil is returned to the storage-tanks to be used over again. The crude quinine sulphate crystallises from the hot solution as it cools, and is afterwards purified by recrystallisation, the mother-liquors, of course, being worked up too. It is a beautiful sight to see the immense rows of big porcelain crystallising-pans, hundreds in number, full of the crystallised sulphate, which looks like snow in water; and it was a delight to Mr. Seely to run his hand down through the solid crystals and squeeze the water out as one would in making a snowball.


Centrifugal Machines.
The purified quinine sulphate as a watery magma is transferred to centrifugal separators, from which the mother-liquor is drawn off, and the sulphate comes out almost dry.

After the crystals have formed in the pans and the solution is thoroughly cooled, their contents are dumped into centrifugal extractors, which throw the water out and leave the quinine sulphate nearly dry. The last crystallising solution (distilled water with a trace of quinine sulphate in it) is returned to the main building through underground pipes, sulphuric acid is added to it, and it becomes the first washing-solution as above described. The quinine is then taken out of the centrifugal machines and spread upon trays to dry. Nearly every druggist knows that quinine sulphate should contain between 14 and 16 per cent. water of crystallisation. One of the most delicate operations in the manufacture of quinine is to produce the article without too much or too little moisture in the finished product. The Bandong factory follows a process, invented by Dr. van Linge, which enables the workers to regulate the air and other conditions in the drying-room, to the extent that the product exactly meets Pharmacopœia requirements.

Packing Finished Quinine
The quinine sulphate comes into this room in the trays in which it is finally dried, and is packed in 100-oz. tins.

Quinine Store-room.
This shows cases of the quinine sulphate ready for despatch to the auctions at Batavia.

After the quinine sulphate has been properly dried it is accurately weighed, under the supervision of a European chemist, like all other operations in the laboratory. The photograph of the operation of packing the salt in the tins shows the chemist whose duty it is to look after this part of the work.

The crystallising building, in which all of this work is done and in which no manufacturing operations are carried on except the purifying and crystallising of the quinine sulphate, is the most perfect specimen of absolute cleanliness Mr. Seely has ever seen. The floors are covered with porcelain-finished tiles, which are kept as clean as dishes, and he noticed that if the smallest dripping of solution was spilt on the floor it had hardly landed before there was a native after it with a cloth. The machinery and apparatus are kept in perfect order, and even the porcelain-lined crystallising-pans are washed with soap and water every time the solutions are changed. Cloths are stretched over each row of pans to keep out the dust and light.

The quinine sulphate, after being put into tins, is sent to the stock-room, where it is put in cases, which are manufactured by natives on the ground. After the goods are placed in the cases, a sample is extracted from each lot that is represented in the finished product, and the director of the Government cinchona-plantation, who has spent twenty-five years in the service and who is a disinterested party, comes to the laboratory and applies the pharmacopœial tests to every sample.

The quinine then goes to Batavia, the principal business-city and port of Java, where it is sold at public auction about once a month. The factory owners have no interest in the sales, as they do no business except with the planter himself, who pays the factory a stated sum (8*s.* for every 35 oz. for manufacturing costs), for it must be borne in mind that the planter owns the bark, and sends it to the factory simply to have the quinine taken from it, which is done on a guarantee that he shall receive the quinine that the bark assays, and he is at liberty to have assays made on his own account before he sends the bark to the factory. The quinine which comes from the bark belongs to the planters until it is sold at public auction. The factory owners have agreed not to enter into the manufacture of quinine on their own account.

The auctions in Batavia are carried on by Messrs. Tiedeman & Van Kerchem, the oldest-established bankers in Java. The quinine is bid for by various brokers, who act for any one that wishes to employ them, and who charge a stated commission for their work, but do not speculate. So strict are they with the auctions that a broker must mention the names of the persons for whom he is purchasing. The quinine is then shipped to various parts of the world.

Veterinary Notes.

By M.R.C.V.S.

Hoof-treatment.

In my last notes on horses' feet reference was made to water as of the first necessity as a hoof-dressing, but with a final reservation as to the employment of various stimulating-preparations to the coronary band, from which the outer and denser layer of the hoof is secreted. Although water may supply all that is needed to a healthy and well-grown foot, it is not for these that our services as veterinary surgeons and pharmacists are asked. It is for the contracted, the fevered, the cracked, the "seedy," and, in a word, the defective that we are consulted, and for which a good deal may be done either of a curative or ameliorative nature. We render no small service to the man whose horse we can keep going (for an occasional half-crown), as in many instances the horse keeps the man and his family, and, if incapacitated for any length of time, the owner is wrecked. I venture to make this remark in order to bring home to the reader what appears to me never adequately understood—namely, the importance of veterinary-prescribing. Let us consider some of the defects of the horse's foot for which we can prescribe with success, without an intimate acquaintance with the details of each individual case. There are, for instance, a great many weak feet—weak in the sense of being inadequately supplied with horny covering: too thin, too flat, too brittle, too soft, too hard, too narrow. Diseased in the various secreting-surfaces, as the coronary band, the papillæ which grow the substance of the sole and frog, the laminæ which, from present or past inflammatory action, secrete material disproportionate in its essential elements, and leading to what is known as canker, seedy toe, &c. To get

A Strong Outer Wall or Hoof

("crust" it is technically called), there must be adequate provisions in the secreting band surrounding the hoof, where the skin leaves off and hoof begins. This, on a larger scale, corresponds to the band under our nails. If lacking in functional activity, a weak wall is the result. For this we can do much. We cannot create a full round band, but we can get the utmost work out of the one which already exists. We can prescribe a gently stimulating embrocation or ointment, or even a blister; but experience goes to prove that repeated stimulation of a gentle character such as may be obtained from popular liniments, is of more permanent advantage than can be obtained from stronger applications. The former, applied two or three times a week, keep up the secreting powers indefinitely, and to such profit, that we may suppose they induce hypertrophy of the glandular structures, whereas the blister exalts to a state of functional activity that cannot be sustained, and as a result we see a ring of hoof growing down, above and below which the hoof is not proportionate. The effort of the blister is spent, and there is reversion to the former state of things. It is possible, on the other hand, with such an application of lin. saponis et aquæ p.æ. applied nightly with a fair amount of friction, to induce the permanent growth and expansion of the foot, from above downwards, in an equal degree, without rings or other evidence of irregular secretion. If this be so, what possibilities there are for our clients in the liniments we can supply for a small sum, if we will but afford them the necessary instruction as to their use? Many lamenesses of a chronic kind are due to the poverty of the coronary growth, and most of the evils of contraction, which have been unjustly assigned to the shoeing-smith, are attributable to the same cause. If one can make the foot grow bigger from the top he will easily enough make a bigger shoe, when in the course of a year or so efforts at the coronet have brought new hoof to the ground. A stimulated hoof may reach the plantar surface in the time named, but horses usually take longer and vary considerably, as may be ascertained from any of the great companies who brand their horses' feet on given dates, and so know accurately how long each has taken to grow out. A thin, weak coronary band sometimes ruptures with the strain put upon it, when the horse is at work of a severe kind; this is a "sandcrack" beginning at the top, but the majority split upwards from the ground surface. The rift or separation which follows can never be entirely cured, as one or more long threads of horn fail to come down from the top, and there is a space left.

There are many ways of treating so-called sandcracks which cannot here find room for description, but it may be mentioned that the stimulation of the coronet on each side of the rift encourages the growth of stouter fibres on either sideand these assist in filling the breach.

Sandcracks

beginning from the ground are also successfully treated by such applications to the coronary band as will promote the growth of horn. If a V is cut out at the bottom and the concussion thus diverted into opposite channels, the weak part is relieved, while the stronger hoof is induced to grow down and eventually replace the loss. A firing iron may be used upon the insensitive hoof to make a V just above the portion of crust cut out, and having at its apex the sandcrack. By this means the liability to further injury to the weakened section is still further reduced. For feet with sandcracks tar ointment is useful; the breach may be daily filled up with a stiff unguent in which wax forms a large proportion, or the natural warmth of the foot melts the application too soon. To fill up spaces of the kind, gutta percha is sometimes employed, but not as a curative agent. For the condition known as

SEEDY TOE

preparations of tar prove helpful, and for much the same reason as already stated. The degenerate horn being removed, it is good treatment to pour in melted tar from a ladle; the under surface of the foot can then be packed with a hoof ointment of which tar will be an essential ingredient. Seedy toe has been associated with a parasite, if it has not been proved to be actually due to it, and preparations of tar will therefore commend themselves to us as as suitable parasiticides.

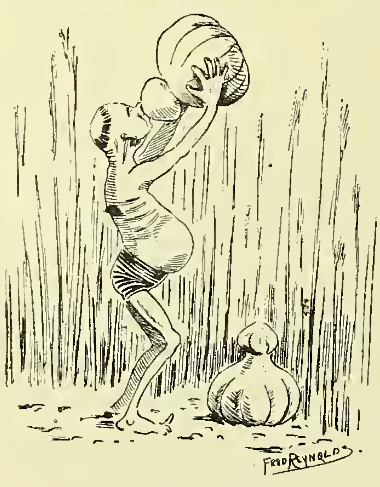
Hoof-dressings composed of lampblack, wax, resin, and various oils and fats, are for the most part prepared for the purpose of making the feet look clean and smart when coming out of the stable, and would be comparatively harmless were it not for preventing that evaporation, which we have attempted to show in a previous article, is necessary to a heathful condition of the horse's foot.

So well aware are the horse-coping fraternity of the effects of water and oil upon the hoof, that they make a horse which is lame in the feet stand in a tub of warm water in which a lot of soda has been dissolved until the utmost expansion has been acquired, and then, as soon as the surface is dry enough, they apply one of the oily preparations to prevent evaporation and consequent pressure upon the sensitive parts within, until the animal has been shown to an intending purchaser. During the short time he is on view, the lameness is partially or wholly masked, but of course returns. Of

HOOF-DRESSINGS,

other than the ornamental variety, there are many, but they are intended for the unseen parts, as stoppings for the sole and dressings for the frog. Stoppings of cow-dung, of clay, and of both these substances in equal proportion, are very generally used among a good class of stable men. They afford sufficient moisture to prevent the exfoliating horn from becoming too hard to be detached at the forge when new shoes are put on. There is no doubt that the plantar surface of the foot needs moisture, but it often gets too much, in the form of rotten bedding, and urine-saturated straw, and moss-litter. It is for the latter reason that moss-bedding is often condemned as prejudicial to the feet. With the frog we have two opposite conditions to contend with. The withering and shrinkage which follows disuse (the crust carrying all the animal's weight), and the spongy and enlarged frog.

Evolution of the Bottle.


Fred Reynolds.

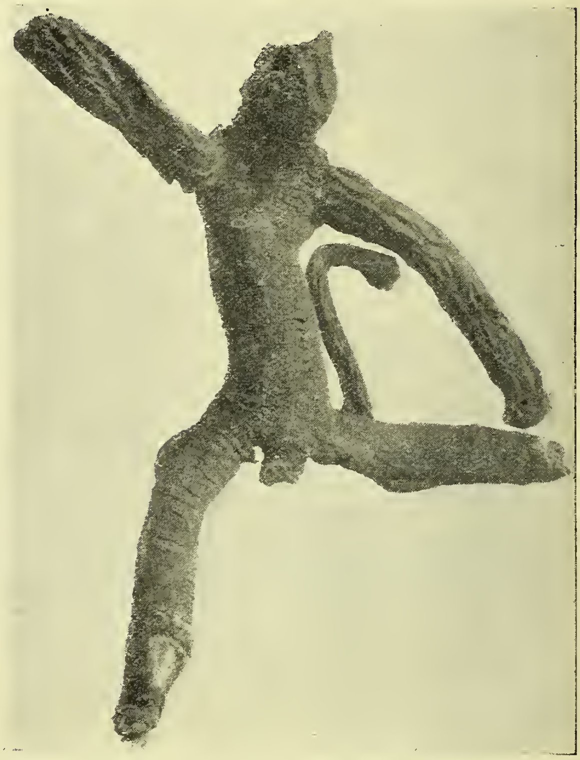
III. The Gourd.

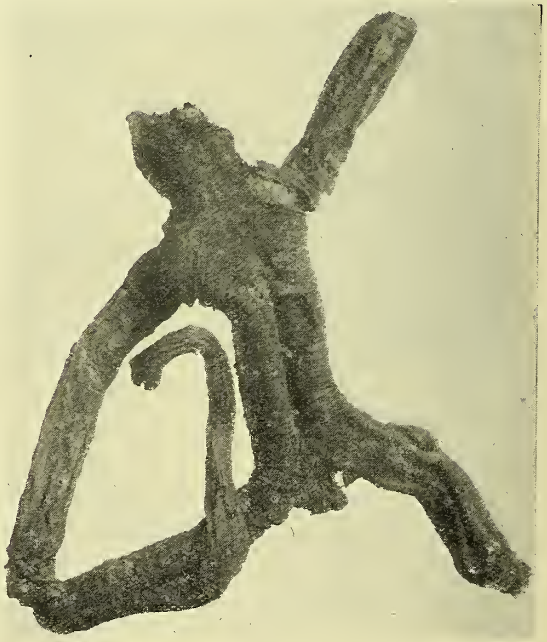
(The next phase of the evolution is given on a later page.)

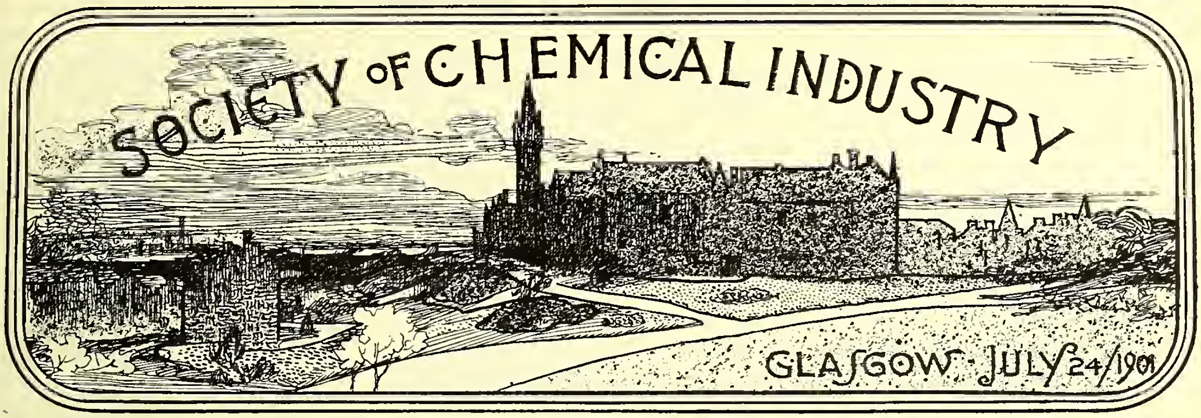
According to Mr. Consul Bennett 275 tons of drugs were exported to Bilbao from the United Kingdom during 1900.

A Bitter Freak.

Nature sometimes works curiously, and here is an example of it which we have received from Mr. E. Griffiths, with Mr. N. M. Grose, pharmacist, Swansea. It is a piece of gentian-root (*Gentiana monkea*, E. Griffiths), picked from a parcel in the course of tincture-making. The pictures are about half the size of the original. The first is the ventral view, the second the dorsal aspect.



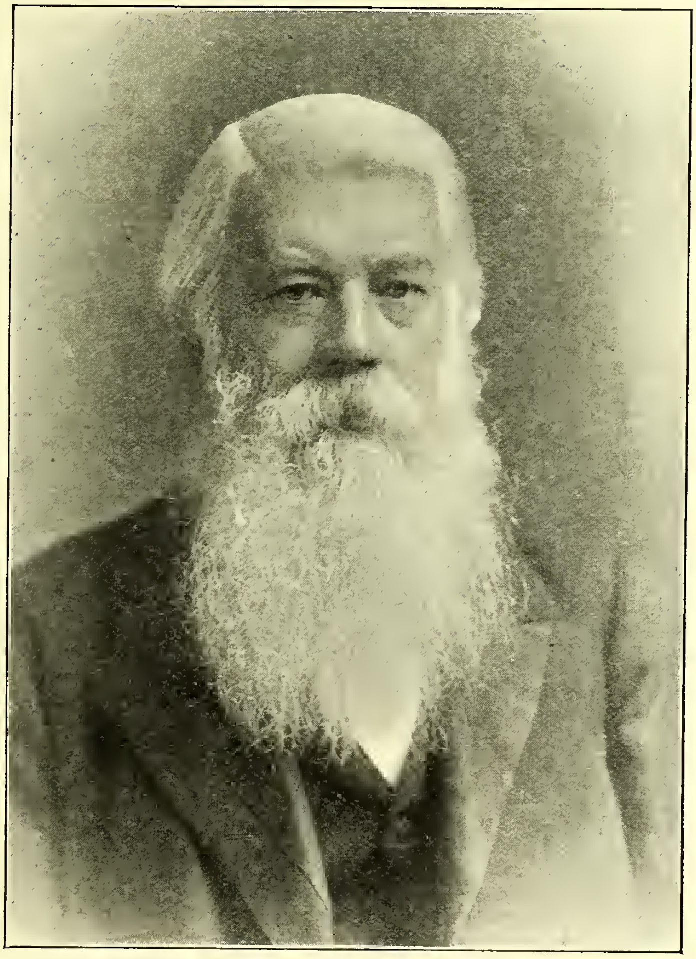




THE PRESIDENT.

FOR the second time in the history of this Society the presidential chair has been occupied by a registered chemist and druggist of Great Britain. At Edinburgh seven years ago the late Mr. E. C. C. Stanford was President, and this week in Glasgow Mr. Joseph Wilson Swan has presided over a goodly gathering of the Society's members. All the world of pharmacy knows that Mr. Swan's name is identified with the old drug firm of Mawson & Swan, Newcastle-on-Tyne, but he has been exceptionally elusive as regards pharmaceutical records, and when we turn to that mine of biographic pabulum, "Who's Who?" we find in it no trace of Mr. Swan's connection with pharmacy. This is what it says:—

> SWAN, Joseph Wilson, M.A., F.R.S., President of the Society of Chemical Industry, Past President, Institution of Electrical Engineers; Vice-President Lit. and Phil. Society of Newcastle-on-Tyne; Corresponding Member Phil. Society of Glasgow; Chevalier de la Légion d'Honneur; b. Sunderland, 31 October, 1828; 2nd s. of John Swan and Isabella Cameron. Educ. Hendon Lodge School, Sunderland. Invented carbon process, making permanent photographs, now known as autotype; co-inventor with Mr. Woodbury of Woodburytype. Mr. Swan also invented the modern dry-plate, and the incandescent electric lamp bearing his name, which has been the forerunner of all other incandescent electric lamps now in use; a miner's electric safety-lamp; improvements in photo-mechanical printing and in electro-metallurgical deposition are amongst his minor inventions. Publications: various communications to the learned societies. Address: 58 Holland Park, W.



Joseph Wilson Swan, M.A., F.R.S.,
President of the Society of Chemical Industry.
This portrait has been specially engraved for The Chemist and Druggist by the Swan Electric Engraving Company, 116 Charing Cross Road, W.C.

Considering that nearly forty years of Mr. Swan's life were spent behind the crimson lights of a druggist's shop, and that he still retains his interest in the Mawson & Swan business, the popular biographic concentrator did not cater in the above paragraph for pharmaceutical journalists. However, the lack of material was an excellent reason for a representative of The Chemist and Druggist going to the fountain-head for information, and Mr. Swan was good enough to spare an hour for a chat one afternoon recently. Mr. Swan's is a singularly striking personality. He is tall beyond the average, and of spare figure; his abundant hair is silvered past the stage which might reveal the youthful colour, but a rich voice and keen interest in contemporary science seem to belie the fact that he has entered his eighth decade. Although the fine residence in Holland Park betokens the man of ease, two large rooms that look out upon its lawn are fitted up as chemical and physical laboratories, and there, with an assistant, Mr. Swan continues his direct interest in research, chiefly electrical. In a sense we have no right to claim

Mr Swan as a Pharmacist,

for his scientific achievements during the past quarter of a century (those by which he has made fame and fortune) are outside pharmacy, yet the fact remains that his training was pharmaceutical, and as late as 1876 he was interesting himself keenly in pharmaceutical problems, as this brief extract from a contemporary, of date January, 1876, in regard to measurement of doses suffices to show:—

> I have discussed this point with my friend Mr. Proctor, and I

think we agree that a white earthenware cup, with the capacity $\frac{1}{8}$ oz. or $\frac{1}{2}$ oz., as the case may be, printed in black on the bottom of the measure inside, and with a thin black line where the cylinder meets the bevel of the brim, to indicate the point to which the measure is to be filled, would go far to meet this difficulty. Such measures stamped out of stiff clay, as gallipots now commonly are, could be made perfectly uniform in size, and at an extremely small cost—probably the cost would be a penny each.

This, it will be gathered, refers to what is now known as the Proctor measure. It may be taken as the last direct contribution by Mr. Swan to pharmaceutical progress, for from 1876 to 1880 his electrical investigations were steadily focussed to the production of the electric incandescent lamp with carbon filament, and since then electrical science has claimed him as one of her high priests. Like other men who have attained eminence in science Mr. Swan owes nothing to accident, but everything to plodding perseverance, and his career is one of the most excellent examples that we have of consistent evolution in knowledge and invention from the boyhood stage onwards. He was early destined to be a chemist. Why, he knows not, but Dr. John Wood, a Scotch Doctor of Divinity, who was his schoolmaster, was an enlightened teacher, and encouraged his pupils to read such scientific books as there were in those days, and one of them was an "Elements of Chemistry," which enabled the Sunderland lad to prepare hydrogen gas before he was 13. Shortly after that he was taken away from school, and before he was 14 he had some experience in pharmacy with a druggist at Hartlepool, whose notions of Sabbath observance appeared to his pupil to be capable of improvement; but the apprentice's doctrinal advice was not accepted in the spirit it was given, and young Swan returned to the parental roof in Sunderland. This was a stroke of real good fortune to him, because he was now (1842) indentured to a firm of druggists in the town, in whose shop he found congenial surroundings and an excellent friend in an assistant who sympathised with the boy's thirst for scientific information. In this pharmacy Mr. Swan had thoroughly good training in the manufacture of galenicals and in shop-work. It was during his apprenticeship that medicine-chests became a compulsory part of every ship's equipment, so a large business in filling them was done in Sunderland. Amongst the contents of the Board of Trade's list in those days was zinc acetate, which was not obtainable locally, and had to be made on the premises. The assistant set the young apprentice to this task, whereby he got his first acquaintance with crystallisation—a subject to which Mr. Swan has always been much attached. He unearthed from an old cupboard in the shop some chemical apparatus, and with it, under the guidance of the assistant, he started various experiments. Amongst them was the production of nitrous-oxide gas, for which they had to make the ammonium nitrate. Before he was 16 Mr. Swan became a member of the Sunderland Atheneum, which gave him access to the scientific literature of the day. When the *Mechanics' Magazine* came out he recommended the committee to take it regularly, and they did. The *Magazine* was an *olla podrida* of recent scientific advance, and it was from it especially that Mr. Swan got his

Early Knowledge of Electrical Phenomena.

About this time he made the acquaintance of a poor tailor, called Wilson, who was a mechanical genius and employed his spare time in working at a lathe. Wilson made for him the uprights and joints for a frictional electric machine, and an uncle got for him the glass body. With this his earliest experiments were made. Much of his spare time was spent at Wilson's lathe, and he thus had the opportunity of becoming intimate with mechanical construction. At that time one of the lecturers of the day was Mr. W. E. Staite. Mr. Swan heard him on three occasions—the first at Sunderland, then at Newcastle, and Carlisle—and amongst the things that Staite showed his audience was a tiny incandescent lamp, the filament of which was made of iridio-platinum. Staite used a Callan's modification of Grove's battery as the source of his power, this consisting of cast-iron boxes, which metal was the negative element, and the positives were zinc plates. From Staite Mr. Swan received much more instruction than the lecturer ever knew. The young lad's mind was most fertile soil, and what he heard and saw he dreamt about and thought about more or less for many years after. We cannot give a better proof of this than a quotation from a lecture on Electric Lighting which he delivered to the Newcastle-on-Tyne Literary and Philosophical Society in October, 1880:—

> I will briefly describe an experiment which I tried twenty years ago. I had a number of pieces of card of various forms and sizes buried in charcoal in a crucible. This I sent to be heated white hot in one of the pottery-kilns belonging to Mr. Wallace, of Forth Banks. From the pieces of carbonised card which I thus obtained I selected a long spiral; the ends of this I clipped between small blocks of carbon, carried by uprights and connected with conducting wires. A small glass shade was cemented over this mounted carbon spiral, and the air was exhausted by means of a very good air-pump, lent to me for the purpose of this experiment by the Rev. Robert Green, of Longhorsley. A good vacuum (according to the ideas that then prevailed) having been produced, I applied the wires of my battery (consisting of fifty cells of Callan's modification of Grove's battery) with great expectation of a brilliant result, &c.

Here we see a striking instance of how the apprenticeship studies were bearing fruit; and it is obvious that while he was receiving instruction in the elements of practical pharmacy and in business habits he was developing intellectually towards practical science. His apprenticeship had not been completed when his masters died, and he went to Newcastle-on-Tyne as an improver with Mr. Mawson. This, again, was a purely drug-business; but Mr. Mawson was quick to note his young assistant's tastes, and encouraged him by getting apparatus for his experiments. Imperceptably, slowly, and without special design, this was the means of establishing an important business in philosophical and scientific instruments under Mr. Swan's management, it being the first of the kind directly attached to a pharmacy in the English provinces. It is well known that the

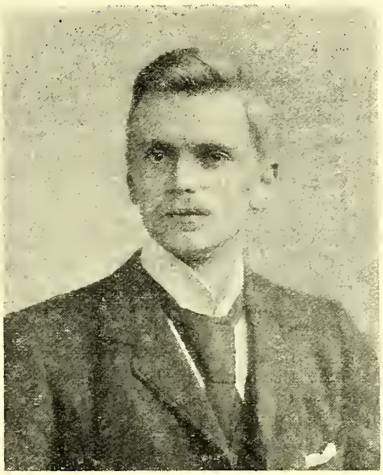
Photographic Part of this Business

also shares that distinction, and for the beginning of this we must go back to Mr. Swan's apprenticeship days in Sunderland, where certain "photogenic" processes were causing a good deal of talk in the Athenæum circles. One of them was a method of taking sunprints of leaves on paper steeped in a solution of bichromate of potash. A transparent slate was used as a printing-frame. From that time Mr. Swan kept pace, as well as his means and opportunities allowed, with the developments of photography; and when, in 1851, Scott Archer invented the wet-collodion process he was ready to take business advantage of it, because he had made guncotton in 1847, when he read Schonbein's specification of his invention, which Jacob Bell reprinted in his *Journal* from the *Mechanics' Magazine*. True, Mr. Swan made a poor job of his first batch of guncotton, but he persevered, and became quite adept in the manufacture. With Scott Archer's discovery a demand for photographic collodion—that is, collodion containing small percentages of alkaline iodide and bromide—was set up, and Mr. Swan made it his business to meet this, and to this day Mawson & Swan are noted for their collodions. Of course, they had to learn everything, and had no past experience, either commercial or scientific, to go upon: they pioneered the way. One of the very first improvements that Mr. Swan devised in this department was in the manufacture of guncotton. When he was visiting the Great Exhibition of 1851 he saw for the first time cotton in hanks, as it comes from the roving machine. "That is the form of cotton I want for nitro-cellulose," said Mr. Swan to himself; and when he got back to Newcastle he tried it with success. From that day the method was followed, and nothing said about it, yet someone else took out a patent for it twenty years afterwards.

By 1860 Mr. Swan had become a partner with Mr. Mawson (who died in 1867), and he had his hands full enough with business, concentrating his attention largely on photographic processes, and keeping a sharp look-out for things that might disturb the collodion-trade. For many years the wet-collodion process satisfied photographers because the results were so good; but there were longings for something more portable, and dry-plates coated with collodion were occasionally used before 1871, when Dr. Maddox suggested the plate of gelatin sensitised in a similar manner to photographic collodion, but with the silver nitrate added. This novelty needed close watching. There were various improvements upon

Sir Robert Pullar,
Chairman of the Scottish Section.

Son of the late Lord Provost John Pullar, who founded the dyeworks in Perth in 1824, where Dr. Perkin experimented with the first aniline dye (mauve). Sir Robert has been a partner in the works since 1848, and was knighted in 1895.



Dr. Thomas Gray, F.C.S.,
Hon. Secretary and Treasurer of the Scottish Section,

Upon whom the local arrangements for the meeting have largely devolved.

Mr. Ivan Levinstein,
The new President of the Society.

A native of Berlin. Educated at a Royal Prussian College and the Berlin University. Came to Manchester in his teens (1864), and founded dyeworks at Blackley. Has made a big success of that early venture.

Maddox's idea, and Mr. Swan tried most of them. One day he read in a photographic paper an announcement by a Mr. Gray, who offered a formula for dry-plates. This Mr. Swan got, and found it to be curiously empirical, for in addition to containing the alkaline iodides and bromides and gelatine, there was in it what Gray called "the organic," which was a decoction of cassia He set to work to eliminate the superfluities of the formula, and gradually got down to the essential elements, but could never get the plates twice of the same rapidity. This was the point that Mr. Swan specially attacked, and at last he discovered that by *heating*, the emulsion of gelatin and silver bromide is increased in sensitiveness up to the point of "fogging"; he, in short, ascertained how to make rapid plates, and did not hesitate to boldly advertise "A Revolution in Photography," although this was right up against the established business of the firm. In this connection it is interesting to recall the report of a paper by Mr. J. P. Gibson, of Hexham, in the *C. & D.*, January, 1882, where is described the photographing of a flash of lightning, on a Swan plate and in $\frac{1}{10800}$ second. This was not intended to mark the rapidity of the Swan plate, but it happens to be a landmark in dry-plate production.

We think these notes sufficiently indicate how Mr. Swan's training as a pharmacist has influenced his career as a man of science. We shall not attempt to tell the story of the invention and perfection of the electric lamp, and need merely say that Mr. Swan was the first to use a filament of carbon, such as is universally used to-day. At first it was carbonised paper, then thread which had an initial dip in sulphuric acid to parchmentise it, and lastly he fell back upon his old love nitro-cellulose, and devised his method of making a filament of it—viz., by squirting collodion into a coagulating liquid. This idea has received multiple applications, even in the textile industry, and it is the initial stage of electric-light filament-making. Suitable lengths of the tough and beautifully uniform threads are then packed in charcoal, as already described, and carbonised in a kiln. Here, again, an original process of Mr. Swan's, has become general without acknowledgment to him. Much more might be said of his services to science, especially in connection with Newcastle, but the fact that the University of Durham some years ago made him M.A. *honoris causâ*, and a few days ago supplemented this with D Sc., suffices to indicate that the Newcastle lad is well honoured, although he has resided in London for twenty years. He and Professor Attfield share the distinction of being the only two chemists and druggists who are Fellows of the Royal Society. And now let

THE MEETING

of the Society of Chemical Industry at Glasgow tell how Mr. Swan conducted himself as President. This meeting was held in the chemical-lecture theatre of the University on Gilmore Hill. Wednesday, July 24, at 10.30 A.M., was the time intimated for the proceedings to commence, and at 10.45, when Mr. Swan stepped on the platform, accompanied by Lord Provost Chisholm, Sir Robert Pullar (Perth), Professor Henderson, Mr. Boverton Redwood, Dr. W. S. Squire, Mr. Clifford Richardson (New York), Messrs. Levinstein, Beilby, Eustace Carey, R. Forbes Carpenter, Carter Bell, W. Reid, Thomas Tyrer, Brotherton, N. H. Martin, Hall. and C. G. Cresswell (General Secretary), there were 300 present. The Lord Provost welcomed the Society in the name of the city. He said on the last occasion they visited Glasgow it was during their last exhibition, and it would be an argument for more frequent exhibitions if these would be the means of bringing more often amongst them such a distinguished body of men. (Laughter and applause.) The chemist of his boyish days was usually the compounder of vile decoctions which they had to swallow—(laughter)—but when they talked of chemistry to-day they thought of something very different. He hoped the Society would flourish and stimulate its members to greater heights in those elevated spheres of patient investigation which it was their lot to occupy. Glasgow owed much to chemical industry, and in the name of the city he gave them a most cordial welcome. (Applause.)

The President returned thanks. It was not, he said, the first time the Society had visited Glasgow. Thirteen years ago they had met with an unusual amount of sympathy and kindness, and, however their great city might have changed in the interim, he knew that that sympathy and kindness would remain unchanged. (Applause.)

The minutes of the last meeting were read and confirmed, and the business of the day was proceeded with.

Election of Council.

The new officers are:—President, Ivan Levinstein; Vice-Presidents, Robert Irvine, Dr. R. Messel, J. M. C. Paton, and Jos. W. Swan, F.R.S.; ordinary members of Council, Dr. Edw. Divers, F.R.S., Professor W. R. E. Hodgkinson, Ph.D., David Howard, Max Muspratt, W. L. Rennoldson, and L. Archbutt.

The Secretary (Mr. C. G. Cresswell, F.I.C., F.C.S.) read the

Report of the Council,

which showed that the number of members on the register is now 3,632, as compared with 3,459 at the last annual meeting. Reference was made to the losses by death, which included Sir Henry Acland, Lord Armstrong, Mr. C. F. Claus, Dr. Stevenson Macadam, and Mr. Saville Shaw. During the session eighty original papers, together with discussions thereon, have appeared in the *Journal*, as compared with eighty-one last year. A pamphlet on arsenic was also published, and the methods of analysis are at present under the consideration of a committee of the Society, with a view to formulating a uniform procedure. For the Scottish Papermakers' Association prizes five papers were received; and a prize of 30*l.* was awarded to Mr Frank Fillis, Fairlight, Rhoose, Cardiff, for dealing with the utilisation of refuse lime-mud in a practical manner, and a prize of 10*l.* to Mr. Martin L. Griffin, of Mechanicville, N Y., for his investigation of esparto-liquor.

Mr. C. G. Cresswell, F.I.C., F.C.S.,
General Secretary.

The Treasurer's Statement

showed a net revenue of 5,892*l.* 15*s.* 3*d.* for the year, and expenditure and investment of 5,761*l.* 7*s.* 8*d.* The items, roughly summarised, come out as follows:—

Receipts.	£	s.	d.	*Expenditure.*	£	s.	d.
Subscriptions ...	4,047	13	4	*Journal*	3,411	7	2
Entrance-fees ...	306	12	0	Salaries and fees...	425	4	6
Interest	336	8	8	Sectional expenses	368	8	9
Journal, sales, &c.	1,089	10	9	Annual meeting...	160	6	3
Sundries	112	12	6	Office expenses ...	187	7	3
				Southwark Water Co.'s 3-per-cent. Stock	1,000	1	0
				Sundries	218	12	9

The Society's investments now amount to 10,709*l.* 7*s.* 2*d.* Mr. Swan then delivered

THE PRESIDENTIAL ADDRESS.

Mr. Swan commenced his address by speaking of electrochemical industry during the nineteenth century, at whose birth the whole horizon of chemical physics was aglow with the light of Volta's great discovery and the constellation of brilliant discoveries it gave rise to. Then the history of electrochemistry began. The idea of the correlation of electricity and the energy that determines chemical action was for the first time grasped. In the first decade the marvellous analytic power of electricity was fully realised, as well as the heat-producing effects of the electric current. The three succeeding decades produced the work of Faraday, and in the fifth decade practical men perceived the advantages of employing electricity for new and useful ends. The first outcome of this was the origin of what Smee called

Electro-Metallurgy.

Faraday's discovery of magneto-electricity next gave us the generation of electricity by the electro-magnetic transformation of motive power, whereby all the wonderful developments of the use of electricity that we see to-day have been rendered possible. The President then proceeded to refer to other developments, noting that in 1838 the *Journal* of the Society first paid to electro-chemical industry the homage of sectional recognition by starting the heading, "Electro-Chemistry and Metallurgy," and which they hit at the true psychological moment. Before that time electro-chemical industries certainly existed and flourished—notably electrolytic-copper refining—but it is since then that they have grown, in number and variety, to a degree of importance which now requires the most respectful consideration of all who are interested in chemical industrial progress. Some of these were lightly touched, such as the manufacture of calcium carbide and the aluminium and sodium industries. Mr. Swan has communicated with every firm in Europe applying electricity to the manufacture of chemical and metallurgical products (over 150), and has obtained information from some of them which was embodied in this address. First he dealt with copper-refining. Professor Chandler, last year's President, gave the production by electrolytic methods as roughly 172,000 tons for the American refineries and 37,000 tons for the twenty-seven refineries located in our own country and on the Continent. Mr. Swan's inquiries show that the European production is now less than 37,000 tons a year. At present 300,000 tons, or over 60 per cent. of the total output of copper, is utilised in electrical engineering. Before electrolytic-copper refining became general, in the early days of the submarine telegraph, there was a great deficiency in the conductivity of commercial copper. Now copper, for conductors, has almost uniformly the normal conductivity of pure copper, with the result of a saving of at least 10 per cent. in the quantity of copper used. Referring to the crystalline nature of deposited copper and its disadvantages, the President said that many years ago he ascertained that it is possible, by varying the composition of the depositing solution, to suppress almost completely the crystalline character. A most remarkable effect in the changed character of the deposit was produced by the addition of a minute proportion of a solution of gelatin in dilute nitric acid to an ordinary copper-sulphate solution composed of a two-thirds saturated solution with 5 per cent. of sulphuric acid. If so much of the gelatin solution as represents 1 part of gelatin to 30,000,000 parts of the copper solution be added, instead of the deposit being pliant and crystalline, it will, under the proper conditions of temperature and current density, be smooth, bright, and elastic, and if the gelatin be in excess the deposit will be extremely hard and brittle.

Bullion-refining by electrolysis, electroplating, and zinc and nickel plating were next dealt with, and the manufacture of aluminium also gave the President the opportunity for remarking that the rivalry between aluminium and copper may prove a salutary check on the price of copper, and also for calling attention to the use of aluminium as a means of producing, in an easy and convenient way, an extremely high temperature, and the reduction of the oxides of the more infusible metals. The electrolytic extraction of sodium was incidentally treated. The principle of Castner's sodium process is exactly like Davy's—both are electrolytic, and in both the electrolyte is fused sodium hydrate. By this process sodium is now manufactured by hundreds of tons, and passes into commerce partly in metallic form, chiefly for use in cyanide manufacture, but a considerable portion is converted into peroxide of sodium. The total output in 1897 was 260 tons. In the extraction of magnesium also the electrolytic method has superseded the chemical method, the process being analogous to that used for the extraction of sodium. Mr. Swan also mentioned that a process of electrolytic-zinc extraction, in which chlorine as well as zinc is produced, is in successful operation at Winnington (Messrs. Brunner, Mond & Co.'s). This process is based on the patents of Hoepfner, and a considerable quantity of zinc (testing 99 96 per cent.) is the result.

After speaking of gold recovery from cyanide solutions the President passed on to speak of the electrolytic alkali and chlorine industry, embracing the production of caustic and carbonated alkali, and of bleaching-powder, hypochlorites, and chlorates. No process can, theoretically considered, be more beautifully simple and complete than the electrolysis of chloride of sodium, but when an attempt is made to carry out this form of decomposition on an industrial scale, perplexing practical difficulties present themselves. Nevertheless, two processes for electrolysing fused sodium chloride—namely, that of Hulin and that of Ackers—have attained industrial trial in France and America. The Hulin process has not yet achieved financial success. The Ackers process is more recent, and, though now in operation at Niagara, its ultimate value is uncertain. Greater success has attended the employment of aqueous solutions of common salt. Two well-marked types of cell are employed—(1) in which mercury is used to amalgamate with and separate the sodium or potassium set free at the cathode, and to remove it from the area of electrolytic or chemical reactions within the primary cell; (2) a diaphragm is used to divide the anode and cathode compartments, and the chemical reaction, by which the metal is transformed into the hydrate, is, as far as possible, restricted to the cathode compartment. Of the first type of cell the Castner-Kellner and the Solvay cells have given satisfactory results. The former is operated at Weston Point, at Osternienberg, and at Niagara; while the latter is stated to be in use at Jemeppe, in Belgium, and at Donetz, in Russia. The process worked out by the "Elektron" Company, of Frankfort, and now operated in a large number of electrolytic-alkali works in Germany, France, Switzerland, and Russia, is stated to be a diaphragm-process; but this company refuses to give any information. This is what the President said about the Castner-Kellner Company's works at Weston Point, which he visited:—

> There I saw in full operation a chemical-works employing 4,000-horse power, and yielding a large output of very pure soda and very strong bleaching-powder, and also a large quantity of sodium and its products, without creating any kind of nuisance. There were, it is true, four tall chimneys, but these were almost smokeless. The ashes from the engine-furnace and a little thin smoke from the chimneys were the sole products in the nature of refuse. The solid contents of the brine, brought into the works by a pipe from the neighbouring salt-beds, were wholly transformed by steam-power into valuable products. The bleaching-powder plant covered two acres. I believe it is the largest in the world. The cleanliness and regular working of an electrolytic-alkali process are not unimportant points in its favour.

Of the diaphragm type of cell one of the best known is that devised by Hargreaves and Bird. The success of an experimental plant which was worked for six years at Farnworth has led to the erection of a large factory at Middlewich, in Cheshire. On the occasion of a recent visit to these works, the building of which is not yet completed, Mr. Swan saw a double series of eleven large cells in operation, each cell taking an E.M.F. of nearly 5 volts and a current of 2,000 to 2,500 amperes. The higher E.M.F. required per cell than that given by Mr. Hargreaves in his original paper is stated to be due to the use of thicker diaphragms. The product here is not caustic, but carbonate of soda, and bleaching-powder.

Other diaphragm-processes in actual operation are the Outhenin-Chalandre and the Le Sueur processes. The first is worked at Chevres, near Geneva, and at Montiers, in France; while the second is operated at a paper-mill near Berlin Falls, New York. The Outhenin-Chalandre cell consists of a bell-shaped anode-chamber of suitable material, into the sides of which a large number of porous tubes are fixed in a position slightly inclined from the horizontal. These tubes act as diaphragms, and contain the sheet-iron cathodes. The caustic-soda solution formed at the cathodes passes to the lower ends of the tubes, and then collects at the bottom of the cell by gravity. The Le Sueur cell contains a horizontal diaphragm, with the anode-compartment on the upper side. According to Weightman, the diaphragms are of asbestos, and last from three to six weeks. Each cell takes 800 amperes at 6 volts, and has a current efficiency of 70 to 80 per cent.

Although the principle of cell-construction in which gravity is allowed to effect the separation of the sodium hydrate formed at the cathode, and in which therefore a diaphragm or mercury is dispensed with, has been discredited by the failure of the Richardson and Holland process at St. Helens, yet a cell on that principle is said to be working with satisfactory results at Aussig, in Austria, and, according to Hausserman, this works is producing alkalies and bleach at the rate of 2,640 tons per annum. A recent laboratory research by Adolph has shown that, under carefully regulated conditions, a current efficiency of over 80 per cent. can be attained in these cells with continuous work; and, as the saving in cell-construction and E.M.F. is considerable, it is possible that "gravity" cells may once again come into use.

Reference was also made to hypochlorites and chlorates, and the following list was given of alkali and bleach works in operation in Europe, 1900–1901:—

Bosnische Elektricitäts Aktiengesellschaft, Jajce; water-power.
The Castner-Kellner Alkali Company, Weston Point; steam-power.
Elektro-chemische Werke, Rheinfelden; water-power.
Elektro-chemische Werke, Bitterfeld; steam-power.
Société des Soudieres Electrolytiques, Les Clavaux; water-power.
Soc. Italiana di Elettrochimica "Volta," Bussi; water-power.
Societa Anonyma Elektra del Besaya, Barceno; water-power.
Solvay et Cie., Jemeppe; steam-power.
Deutsche Solvay Werke, Osternienberg; steam-power.
Lubimoff, Solvay et Cie., Donetz; steam-power.
Société des Usines de Produits Chimiques de Monthey, Monthey; water-power.
Akcyjne Fowarzystons "Elektryczuon," Zombkowice; steam-power.
Société Anonyme Suisse de l'Industrie Electro-chimique "Volta," Chevres; water-power.
The Electrolytic Alkali Company, Middlewich; steam-power.

The above fourteen works have available 13,700-horse power (steam) and 23,000-horse power (water); total 36,700-horse power. The output of six works in 1900 was 12,000 tons of caustic soda and 26,000 tons of bleaching powder.

Chlorate-works in operation in Europe, 1900–1901:—

Corbin et Cie., Chedde; water-power.
Société d'Electro-chimie, St. Michel de Maurienne; water-power.
Société d'Electro-chimie, Vallorbe; water power.
Superfosfat Fabriks Aktiebolag, Mansboe; water-power.
Superfosfat Fabriks Aktiebolag, Alby; water-power.
Consortium f. Elektrochem. Industric, Golling; water-power.
Gesellschaft für Elektrochem. Industrie; water-power.

Only three of the above firms supplied the desired figures. In the remaining cases the details of the power available have been obtained from other sources. The above seven works have over 28,000-horse power available for the production of chlorates, and their output in 1900 is estimated to have been about 9,000 tons.

Mr. Swan also stated that the manufacture of ammonium persulphate and perchlorate has now become a sub-branch of the electrolytic-chlorate industry, and these chemicals are being produced by Messrs. Corbin & Co. at Chedde, and by the Swedish Company at Mansboe. In this case electrolysis has given a convenient method for producing compounds of high oxygen value on a commercial scale. These products are used in photography and in the manufacture of some of the modern high explosives.

ORGANIC PRODUCTS.

There is considerable experimental activity with electricity in the field of organic chemistry, and there is actual achievement of a substantial kind. In proof of this he gave the following list of organic compounds, all of which have been produced in the chemical laboratory by aid of electrolytic methods. The first five have been produced in this way on a commercial scale:—

Iodoform
Vanillin
Chloral
Azo and hydrazo compounds
Oxidation products of fusel oil
Dyes of triphenyl-methane type
Aniline blue and aniline black
Hoffmann violet
Alizarine
Congo red
Oxidation products of the alcohols
Sulphonic acids
Piperidine
Dihydrochinoline
Benzidine
Amidophenol

Messrs. Schering, of Berlin; the Badische Anilin und Soda Fabrik; Meister, Lucius & Brüning; and the Farbenfabrik vormals Fried. Bayer & Co. are all using electrolytic methods, but definite information upon this point is lacking. In all factories where organic products are made on a large scale chromic acid is the usual oxidising-agent. Meister, Lucius & Brüning are now using an electrolytic process for renewing exhausted chromic solutions, and this process is said to have many advantages. The electrolytic production of inorganic colouring-matters has not developed into a recognised industry, but there is a firm at Cologne producing white-lead and other chemicals of this kind by electrolysis.

OZONE.

In the field of organic chemical manufacture electrolytic ozone has been utilised with great effect, especially in the transformation of oil of cloves into vanillin and into heliotropin, also in bleaching-operations in conjunction with hypochlorite of soda. Vanillin is produced by ozonisation of iso-eugenol in acetic-acid solution in works near Paris. The quantity manufactured yearly of these two valuable substances amounts to 10,000 kilos. The ozoniser used was designed by Verley.

Among the more important uses proposed for ozone, the sterilisation of water must be mentioned as occupying the attention of hygienic engineers. The principle of water-sterilisation by ozone has been definitely adopted for the water-supply of Lille. The decoloration and defecation of syrup in sugar manufacture, and the rapid production of the effect of "ageing" on alcohol, are among the many other uses proposed for electrically produced ozone.

The next succeeding portions of the address were devoted to the fixation of atmospheric nitrogen, and the electric furnace and its products, chief of which is

Calcium Carbide.

After electrolytic-copper refining, there is no branch of electro-chemical industry so large as that of calcium carbide. The European production in 1900 was about 60,000 tons, and works exist with power to produce three times this amount. They are as follows :—

Société Electro-chimique de la Romanche, Livet.
Bosnische Elektricitäts Aktiengesellschaft, Jajce.
Soc. Italiana Carburo di Calcio, Collestatle, near Terni.
Aktieselskabet-Hafslund, Sarpsborg.
Usines Electriques de la Lonza, Gampel.
Aktieselskabet Karbidindustrie, Sarpsborg.
Société Suisse de l'Industrie Electro-Chimique "Volta," Vernier.
Société Electrochimique du Giffre, Bellegarde.
Acetylene Illuminating Company, Foyers.
Superfosfat Fabriks Aktiebolag, Mansboe.
Societa Espanola Carburos Metalicos, Berga.
Schweizerische Gesellschaft f. Elektrochemische Industrie, Thusis.
Elektrochemische Werke, Rheiufelden.
Societa Piedmontese-Carburo di Calcio, St. Mareel.
Orebro Elektriska Aktiebolag, Orebro.
Société Nicoise d'Electrochimie, Plan-du-Var.
Trollhattans Elektriska Kraft Aktiebolag, Trollhattan.
Société Hydro-Electrique des Pyrenees, Le Castelet.
Allgemeine Carbid und Acetylengesellschaft, Matrei.
Hamekoski Aktiebolag-Wiborg, Hamekoski.
Akcyjne Fowarzystons "Elektrycznon," Zombkowice.
Compagnie française des Carbures, Sechilienne.
Württemburg Portland Cement Werke, Lauffen.
Schweiz. Gesellschaft f. Elektrochemische Industrie, Luterbach.
Compagnie des Salines du Midi, Salies du Salut.
The United Alkali Company, Widnes.

The above twenty-six works have available 107,000 horse power (water) and 1,200 horse power (steam). The output of thirteen works in 1900 was equal to 17,065 tons carbide. A very large number of carbide-works failed to make any returns.

After dealing with other metallurgical matters, Mr. Swan spoke of

The Manufacture of Phosphorus,

which is another case where an old process has been modified and improved by the use of electricity. As in the case of sodium, it is probable that in a few years the older method of manufacturing phosphorus will be entirely superseded. In 1899 Tatlock stated that one-half of the phosphorus production of the world (estimated at 1,000 tons) was produced by the electric furnace, and now every country of importance possesses phosphorus-works depending on the use of electricity. In this country the Readman furnace is in operation at Wednesfield, and uses about 500-horse power. Electric-furnace phosphorus-works are also said to be operating at Niagara, Paris, Vernier, and Griesheim.

Finally, he alluded to the use of electricity in the

Chemical Laboratory,

stating that the following metals can be quantitatively determined by electrolytic methods :—

Copper, nickel, cobalt, lead, antimony, bismuth, iron, zinc, cadmium, manganese, silver mercury, tin, gold, platinum, and palladium. The first six of these metals are, in fact, more quickly and conveniently determined in this way than by the ordinary gravimetric or volumetric methods of analysis. Electrolysis can also be used with advantage to prepare standard-acid solutions for volumetric analysis. Standard sulphuric acid is now being made in some laboratories by electrolysis of copper-sulphate solutions. The chemical laboratory of the present day cannot therefore be considered fully equipped unless provided with the fittings and apparatus required for electrolytic work.

The Peroration

was devoted to a consideration of the future, and in the course of it the President gave some data, especially valuable to engineers, respecting the power (steam and water) in various European countries in connection with the electric industries mentioned. Of the total power (166,278-horse power), 89 per cent. is generated from water, 10 per cent. from steam, and 1 per cent. from gas. He continued :—

For the present, it is to be feared and realised, that electricity cannot be generated in the British Islands by means of coal, as cheaply as in those countries where abundant, accessible, and easily engineered water-power is available, and hence it is necessary to consider what is best worth doing with the little water-power and the more costly steam-power or gas-power at our disposal. Some of the new industries discussed cannot be carried on with profit in our almost water-powerless island. But I trust that gas-engines in conjunction with cheap gas may ameliorate the situation, and that at no very distant date blast-furnace gases may be generally utilised for power production, in conjunction with some complementary or auxiliary electro-chemical manufacture. We cannot do everything, but it is certain that within the limits of our capacity there is yet ample scope for the profitable exercise of our energies. There are many electro-chemical industries in which the ratio of cost of power to value of product is such that the cost of power, at a rate which we know to be attainable in many of our manufacturing centres, is not prohibitive. We must concentrate our attention on these. Thus in the alkali-manufacture, electrolytic soda must in the future be treated as the by-product, and chlorine as the principal product, of the electrolysis of chloride of sodium.

Chemical industry is, almost beyond any other industry, liable to change. Twenty-five years ago we possessed well-nigh a monopoly of the manufacture and export of alkali. The Clyde, the Mersey, and the Tyne were the supply markets of the world for this typical and indispensable chemical product. We well know that that state of things no longer exists. The causes of the transformation are many, and most of them in the natural order of things. Taking a large and liberal view of the subject, they seem to be in the direction of progress, and for the general good ; and yet it is a kind of progress in some respects detrimental to our interests, and not to be contemplated with perfect equanimity. Among what I term natural causes is the spread of knowledge, and especially such knowledge as we are so effectively helping to diffuse—a knowledge how to build, equip, and manage chemical-works. Then, too, there is general increase of wealth abroad, and great development of commercial enterprise. But one of the less satisfactory of the causes of change, from the point of view of the British manufacturer, is that non-natural, that quite artificial, cause—prohibitive tariffs, the force of the principle of boycott.

Then there is the great question of education, in its bearing on the future prosperity of chemical industry, and industry in general. . . . I cannot but congratulate Scotland and the Scottish section of the Society on the very advantageous position it occupies in this respect. In England and Ireland we are suffering acutely from dire educational neglect and destitution, and that worst kind of poverty—insensibility to our deficiencies. . . . One of the most pressing requirements of the moment, demanded not only in the interest of chemical industry, but in that of our manufacturing industries generally, is adequate endowment and encouragement of research. Original scientific research is the fountain-head of new knowledge, the vital stimulus of industrial growth, the originator of new industries and sustainer of old. Yet, nationally, in the organisation of our educational and industrial system, we give to scientific research no hospitality—we barely pay it the respect of recognition.

The advances in knowledge, and the consequent revolutionary changes that have taken place in almost every branch of chemical industry during the last hundred years, are probably not greater than those further changes that will be seen at the end of the present century ; for change brought about by scientific discovery grows ever swifter and more sweeping.

But change is in the natural order of things, and so long as it is in harmony with progress and improvement, it is to be welcomed—it cannot be resisted. We must prepare to meet it, and we had better meet it on the threshold. But to benefit by it, and to take complete advantage of it, demands the fullest measure of assistance that education, energy, and enterprise can unitedly give.

NOTES OF THE PROCEEDINGS.

On the name of the new President (Mr. Levinstein) being mentioned, Mr. Swan requested the Secretary to introduce Mr. Levinstein to the meeting as one of the prominent Manchester supporters of the Society, an advocate of patent-reform and technical education, and a chemical-manufacturer of world-wide fame. He wished him a pleasant tenure of the office. (Applause.)

The adoption of the Council's report was moved by Dr. Clark, and seconded by Dr. Prescott (Philadelphia, U.S.A.), who referred to the great obligation teachers in the United States lie under to the Society. (Applause.)

The adoption of the Treasurer's report, and a vote of thanks to the Treasurer, were carried on the motion of Mr. W. Reid.

The President read a telegram of apology from Sir Henry Roscoe, and an apology was also read from Sir Lowthian Bell.

Mr. Levinstein proposed a vote of thanks to Mr. Swan for his address, which he said was one of the most valuable and instructive ever delivered from the chair of the Society. He thought the President had been too modest, and he wanted to defend Manchester at least from the charge of being insensible to their deficiencies in regard to secondary education. His experience of chemists was that English-trained men are quite as good as Germans. (Applause.) The difference was that in Germany an education was given for 4*l.* a year that in England cost 200*l.* or 300*l.*, and consequently comparatively few in England could take advantage of it. He wished for the President many years of vigorous life. (Applause.)

Sir Robert Pullar seconded the motion, and said that so far as Scotland was concerned they were doing their best to remedy their deficiencies.

The President, in his reply, said he had specially stated that Scotland was exceptional as regards education, and he hoped that the good example set by Manchester would spread all over the country. (Applause.)

On the motion of Mr. Batty, the auditors were reappointed.

Mr. Tyrer proposed that Mr. Beilby be reappointed representative of the Society on the Council of the Imperial Institute, which was seconded in a neat speech by Professor Lang (Toronto), and agreed to.

Mr. Higgins (Liverpool) gave a cordial invitation to the Society to visit Liverpool, and moved that next year's meeting be held there. This was seconded by Mr. Carey, of the United Alkali Company, and adopted with acclamation.

Mr. Beilby moved a vote of thanks to the senate of the Glasgow University, which was seconded by Mr. Clifford Richardson (New York), who said that the New York members had intimated to the Council the hope that in 1903, or the near future, the Society should meet on American soil. (Applause.)

Dr. Gray having intimated the other arrangements for the week, the meeting adjourned.

LUNCHEONS AND EXCURSIONS.

At 1.15 o'clock the company met for luncheon in the Grosvenor Restaurant in the Exhibition, on the invitation of the Scottish Section. There was a full muster, and a very fine spread did credit to the purveyors. After luncheon the President proposed the health of their hosts the Scottish Section, which was drunk with musical honours, and replied to by Sir Robert Pullar. Most of the visitors spent the afternoon in the Exhibition, and particular attention appeared to be directed to the section where the electrical machinery was to be found. General were the expressions of satisfaction with the Fine Art Gallery and the very splendid collection of pictures.

In the evening the Lord Provost and Corporation of the City gave a reception, in honour of the Society, in the municipal buildings. Invitations had been issued to all the members attending the meeting, to the chemists and druggists, chemical-manufacturers, and analytical chemists, and numerous prominent citizens, together with their lady friends. The result was such a gathering of representatives of the chemical industries as has not been seen in Glasgow for many a long day. After seeing the Fine Art Gallery the visitors who had seen Glasgow for the first time were prepared for anything, but there were few who were not surprised at the magnificent marble staircase, the spacious corridors, and the dream of art and beauty in the banquetting-hall, with its beautiful historical panels.

On Thursday the forenoon was given up to visiting places of interest in and about Glasgow, quite a number of separate parties being made up on "personally conducted" lines. The following works were visited:—

At Well Park Brewery (Messrs. J. & R. Tennent) a large party, conducted by Dr. William Frew, saw the whole process of brewing, from the malting of the barley to the bottling of the beer. In the case of ordinary ale and stout the yeast is added at a temperature of about 60° F., and the primary fermentation goes on for three days. After being racked into barrels or vats with dry hops, it matures and undergoes the secondary fermentation at 55° to 60° F. For Lager and Munich beers the primary fermentation goes on between 43° F. and 51° F., and occupies from eight to twelve days. The secondary fermentation is carried on at a still lower temperature, quite close to the freezing-point, and of course it takes weeks and months to ripen the beer; during this time it develops its characteristic flavour. All the various operations were explained, and after the company had gone the round of the buildings they were entertained to luncheon by Messrs. J. & R. Tennent.

Another party visited the Britannia Pottery of Messrs. Cochran & Fleming, under the guidance of Mr. J. Arnold Fleming. This is a very extensive concern, being one of the largest in Scotland. It employs over 500 workers, and has an average output of 1,000,000 pieces per week. The entire processes were carefully explained and shown in operation, and after the visitors had been gratified by what they had seen they were hospitably entertained by the proprietors.

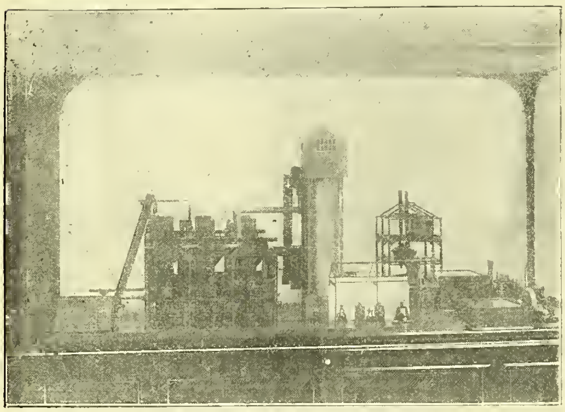
One of the sights of Glasgow is Templeton's carpet-factory. Situated close to the People's Palace at Greenhead, near the Glasgow Green, the oriental-looking building at once strikes the stranger as apparently out of keeping with the locality. It presents a very fine appearance, and the inside is just as striking as the outside. Such, at least, was the opinion of the gentlemen who, under the guidance of Mr. George Lean, B.Sc., witnessed the process of manufacture of Axminster carpets and rugs, both on the chenille and "tufting" principle. The weaving of Brussels and Wilton carpets on Jacquard looms was also shown, and here also the visitors enjoyed a luncheon at the expense of Messrs. Templeton & Co.

The Corporation sewage-purification works at Dalmarnock and the Pinkston electric-power station were also visited, the "guides" being respectively Mr. M. A. Parker, B.Sc., and Dr. W. C. Anderson. Another party were shown over the Ardgowan distillery, Greenock, by Dr. W. S. Squire, and the archæologists of the Society were gratified by being taken round Glasgow Cathedral by Mr. P. MacGregor Chalmers.

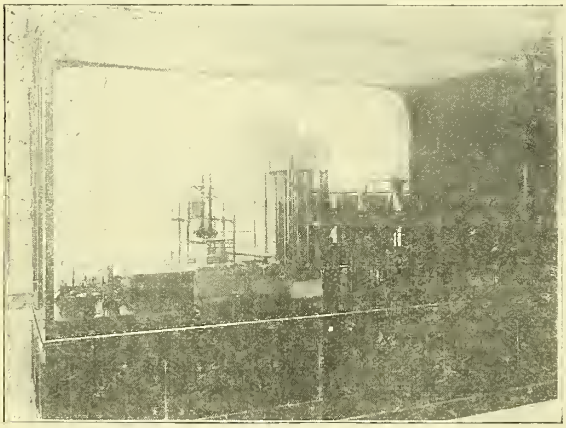
On Thursday afternoon the Chairman of the Section held a reception in a marquee, as Miss Cranston's new tea room is not ready; and from 7 to 7.30 the members and friends were received by the President, previous to the annual dinner at 7.30 in the Windsor Hotel. An excursion on the Firth of Clyde, arranged for Friday, finishes the programme of the meeting.

Mond Gas.

One of the objects which attracted the visitors to the Exhibition was the model of the "Mond" gas-producer plant. This we reproduce from photographs. In working it non-bituminous slack is mechanically discharged into hoppers above the producers, and from these it is fed into a "bell" (which forms part of the producer), where the first heating of the slack or coal takes place. From the bell the fuel gradually descends into the body of the producer, and there comes into contact with a superheated blast containing a very large amount of steam. Here the various chemical reactions take place, and the gas, consisting of a mixture of hydrogen, carbon monoxide, methane, carbon dioxide, ammonia, and nitrogen, leaves by an outlet on the top of the producer and passes into a tubular regenerator in the opposite direction to the incoming blast. An exchange of heat takes place, and the blast is still further heated by passing down an annular space between the two shells of the producer on its way to the fire-grate. The gases on leaving the regenerator are led into a long rectangular box called a "washer," in which they are washed by coming into contact with fine sprays of water thrown up by revolving dashers driven from the outside. This cools down the gas, and at the same time more steam is absorbed by it. After the washer, the gas is led through a high tower lined



with lead and filled with perforated bricks or tiles. Here it meets a downward flow of an acid solution of sulphate of ammonia, the free acid combining with the ammonia in the gas, thus forming more sulphate of ammonia. Part of the ammonia-sulphate liquor is constantly taken away and



evaporated to produce the solid product. The gas issuing from the top of the acid tower is led into the bottom of another tower similarly lined with perforated bricks, and is there met by a downward flow of cold water, which condenses a great quantity of the steam contained in the gas and at the same time cools it.

THE NEW PRESIDENT.

Mr. Ivan Levinstein who has this week been elected President of the Society of Chemical Industry, was born in 1845 in Berlin, and received his early education at a Royal Prussian College. Deciding to adopt the profession of a chemist, he early began the study of chemistry at the Berlin University and Technical High School, where he progressed so well that when only 18 years of age he was appointed to be assistant chemist to Professor Weber, and had already done a considerable amount of original research work. In 1863 he obtained his first patent in Germany for an improvement in the manufacture of coal-tar colours, and in the following year removed to Manchester with the intention of commencing business as a chemical-manufacturer. For a young man of 19 to begin business on his own account by opening works in a district hitherto practically unknown to him was a somewhat daring venture, but this Mr. Levinstein did at Blackley, near Manchester, and his enterprise was soon justified by the success of the undertaking. The business steadily increased, and in 1887 was transferred to larger works at Crumpsall, where it has since been carried on. From time to time the rapid increase in the business has necessitated considerable additions and extensions, and the works are at the present time the largest in the country for the manufacture of coal-tar products. Mr. Levinstein assisted in 1881 in the establishment of the Manchester Section of the Society of Chemical Industry, and has since taken an active part in its work. Mr. Levinstein is the author of a large number of valuable papers dealing with scientific and technical subjects. He has frequently written on technical education and on the patent laws. In 1892 the representatives of the chemical and allied industries of Great Britain presented Mr. Levinstein with a handsome silver dinner-service in recognition of his many services in the furtherance of technical chemistry. Since 1885 Mr. Levinstein has taken an active part in the management of the chemical and of the dyeing and printing departments of the Manchester Municipal Technical School. On two occasions he has visited the Continent as a member of deputations appointed to investigate and report on the equipment and work of technical schools and on the methods of technical education as existing abroad. Mr. Levinstein's persistent and well-directed efforts to obtain an amendment of the patent laws are well known to many of our readers. Quite recently he presented to the Board of Trade a petition for a compulsory licence to work a certain process, and after a hearing extending over eleven days before the Referee of the Board, involving a large expenditure of money, he was successful in obtaining the desired powers. The decision in this case will doubtless have far-reaching effects, as in all probability future cases will be governed by it. The services thus rendered by Mr. Levinstein met with the warm approval and appreciation of the Manchester Chamber of Commerce, and recently the Board of Directors of that body unanimously passed a resolution conveying a vote of thanks to him, and also ordered that the resolution should be engrossed and presented to him. For a considerable period Mr. Levinstein has taken a deep interest in the work of the Owens College, and at the present time is a member of the Council of the College, and also one of the life governors of the institution.

Evolution of the Bottle.

IV. Roman.

(The next phase of the evolution is given on a later page.)

Taka-diastase and Reversed Ferment Action.—Mr. A. Croft Hill, in a paper communicated to the Chemical Society, states that the hydrolysis of dilute starch solutions by taka-diastase ends in an almost complete transformation to glucose, shown by the combined polarimetric and copper reduction methods of estimation; no dextrin which resists further hydrolysis is formed, and there is sufficient maltase in commercial taka-diastase to convert all the maltose to glucose.

Legal Reports.

Trade Law.

Courtenay's Worcestershire Sauce.—At the High Court on July 23, Mr. Justice Joyce was asked on behalf of the defendant in the action Courtenay's Worcester Sauce Company *v.* Courtenay to set aside the judgment his Lordship had given for a perpetual injunction and restore the action in order that point of law might be argued by counsel. His Lordship doubted if the plaintiffs would ever get the costs of the action, but it was ultimately agreed that the defendant should withdraw a paragraph from the pleadings containing certain allegations of fraud, and admit all the facts, and then on payment of 10*l.* costs before October 15 the action to be restored to the paper and tried at an early date.

Reporting under the Factory Acts.—At Bow Street Police Court on July 18, before Sir F. Lushington, Messrs. W. Watson & Sons, opticians, of Fulwood's Rents, Holborn, were charged under the Factory Acts with failing to register and report an accident which occurred at their premises on March 19 last. Mr. Vaughan, who supported the summons, said it was absolutely necessary that accidents should be reported to the factory-inspectors in order that they might become acquainted with dangerous machinery and processes. The accident in question was due to faulty setting of the machinery, and a man was incapacitated several weeks in consequence. The defendants pleaded guilty, and fines and costs amounting to 16*l.* 3*s.* were imposed.

Sale of Food and Drugs Acts.

Saltpetre.

At the Devizes Borough Petty Sessions on July 17, Mr. Alderman G. H. Mead, grocer, was summoned for selling as saltpetre an article which Dr. Bernard Dyer, county analyst for Wilts, certified to consist of sodium nitrate 97·2, potassium nitrate 1·8, chlorides and sulphates 0·7, water and insoluble matter 0·3. Dr. Dyer remarked in his certificate: "It therefore consisted not of saltpetre, but of commercially pure sodium nitrate, sometimes called 'Chili saltpetre,' containing only a small proportion of potassium nitrate or real saltpetre, whereas saltpetre as ordinarily understood and as defined in the British Pharmacopœia consists wholly of potassium nitrate." Defendant said he bought the article in question from a reliable house, Messrs. Leonard & Son, of Bristol, with whom he and his father had dealt for fifty years. Hundreds of tons of the same were sold for bacon-curing purposes, and there had never been any question about it. There were three qualities of saltpetre—No. 1, No. 2, and No. 3; the one in question was No. 2. Mr. Beardsley (the inspector) said nitrate of soda was a manure and would only be used as a fertiliser; it had no preservative qualities. He offered to withdraw the case against Mr. Mead and go for the wholesale house if they had given a guarantee with the goods, but Mr. Mead preferred that it should be dealt with at once. The Bench inflicted a fine of 10*s.* and 8*s.* 6*d.* costs, adding that they wished the wholesalers had been before them instead of the retailer.

Apothecaries Act.

A Chemist and Druggist Fined.

At the Carmarthen County Court on July 18, before Judge Bishop and a special jury, the Society of Apothecaries sought to recover a 20*l.* penalty from Morris William Jenkins, chemist and druggist, St. Clears, for practising as an apothecary without a certificate. Mr. J. Lloyd Morgan, M.P. (instructed by Mr. H. Brunel White, Carmarthen), was for the plaintiffs, and Mr. Meager (instructed by Mr. W. Morgan Griffiths, Carmarthen) for the defendant.

Mr. Lloyd Morgan, in opening the plaintiffs' case, said it was not a question of a person going into defendant's chemist shop and ordering some medicine, but defendant had examined patients, and afterwards prescribed exactly what a doctor would do. An inquest was held by Mr. Thomas Walters, Coroner for West Carmarthenshire, at Whitland, on January 29 last, when it transpired that a deceased man had been attended by the defendant. When examined by the Coroner as a witness, the defendant said the deceased came to his shop to consult him. He was suffering from shortness of breath, and was treated by him (defendant) for enlarged liver and valvular disease of the heart. Defendant further admitted to the Coroner that he prescribed largely, and many people consulted him. He had prescribed for a policeman by post and supplied medicine. People went to defendant's shop to be examined and prescribed for.

Evidence was then given in support of the opening statement.

Mr. Thomas Walters, Coroner for West Carmarthenshire, detailed the circumstances of the inquest on the body of John Williams. Defendant had appeared before him at three inquests, and he had warned him. He told defendant at the last inquest that as he seemed to have ignored what he had been told on the previous occasion he (Mr. Walters) should report him to the proper authorities.

No evidence was called for the defence, and Mr. Meager, addressing the jury, said there was no suggestion that defendant charged anything for advice, but simply for the medicine. There was no doubt that the action had been brought in the interest of doctors. He submitted that defendant had done nothing more than he had a right to do as a chemist.

The jury found defendant guilty of having acted as an apothecary without a certificate, and the penalty of 20*l.* was imposed with costs.

Medicine-stamp Act.

At Rochdale, on July 17, Joseph Critchley, of Oldham, was prosecuted by the Board of Inland Revenue for selling "Critchley's Indian Balm" without a stamp, and without a licence. The evidence showed that defendant had a movable stall in Rochdale Market, where he sold the medicine. A number of handbills and a placard were displayed recommending the "Indian balm" as a cure for indigestion. An Inland Revenue officer bought a sixpenny bottle, and asked defendant if his medicine was stamped, and if he had a licence. Defendant said he had neither, but he supplied his balm to chemists in the town, and the bottles supplied to them would be found to be stamped. He sent to a neighbouring chemist, and a stamped bottle of the balm was bought. Defendant had a patent-medicine licence for his shop in Oldham. Mr. Sixsmith, for the defence, submitted that the prosecution had offered no evidence whatever as to what the mixture sold by the defendant was composed of, and in the schedule of mixtures distinctly set out in the section under which the proceedings were taken, there was no reference to Critchley's Indian balm. There was no evidence to show that the mixture or preparation came within the meaning of the section. Suppose the contents of the bottle had been water, he argued, would the Bench say that plain water could come within the description in the schedule of the section? The Chairman: We are obliged to rule against you on that point. Mr. Sixsmith said he might have to ask the Bench to state a case on that point. Defendant had a licence in Oldham, and was under the impression that that licence enabled him to sell his goods anywhere. The Chairman said that as that was the first case of the kind that had been before the Court, the Bench would deal leniently with the defendant, and imposed a fine of 10*s.* 6*d.* and costs in each case.

County Court Case.

A Chemistry-lesson.

An action was brought in the Oldham County Court on July 18 by Terence Beatty (13), against Kate Reilly, headmistress at St. Edward's School, Lees, for 5*l.*, for injuries sustained. Miss Reilly was giving a chemistry-lesson when a piece flew out of a glass bottle. The bottle was thrown away, but Beatty afterwards picked it up in the schoolyard, when, he alleged, it exploded in his hand and cut his thumb. He was a half-timer in a mill, and had been seven weeks off work. A verdict was given for the defendant, with costs.

Bankruptcies and Failures.

Re J. Pickering, Didsbury, Chemist's Assistant.—The trustee under this failure (the Official Receiver of the Macclesfield Bankruptcy Court) announces that he has now completed the realisation of the estate, and is enabled to pay a second and final dividend of 1*s.* 2¼*d.* in the pound to the unsecured creditors.

Re Edward Chamberlain, 32 Lockwood Road, Wheatley Doncaster, Cattle Spice and Medicine Manufacturer.—The adjourned public examination took place at the Sheffield Bankruptcy Court on July 18, when the Official Receiver said the debtor had handed over books relating to his state of affairs, and debtor was allowed to pass his examination.

Re James Charnock Marshall, Rochdale, Manufacturing Chemist.—The adjourned examination was held at Rochdale Bankruptcy Court on July 19, when Mr. W. Standring, who represented creditors, said he was instructed, in case the debtor and his wife declined to make any arrangement as to the furniture, to ask the Official Receiver to take steps to test debtor's wife's claim to that furniture. Debtor said his wife had considered the matter, and said she had lost quite sufficient. The examination was further adjourned, the Registrar intimating to debtor that he had better tell his wife what Mr. Standring had said.

Re Frederick Taylor, 90 Market Street, Earlstown, formerly carrying on business as a druggist at 155 Manchester Road, Castleton, near Rochdale.

The public examination of this debtor took place at the Rochdale Bankruptcy Court on July 19. Asked why he carried on the business under the name of "A. Taylor," debtor said "A. Taylor" was his mother. When he started he was not more than 20 years of age, and was not liable for the debts he contracted. Moreover, he was under the age for qualification for a chemist. The Official Receiver: You are not qualified as a chemist now, are you? Debtor: No; I have only passed the Preliminary examination, but I have employed qualified assistants from the beginning. "A. Taylor" carried on the business under the conditions which prevailed before the passing of the Act. The Registrar: Why didn't you qualify?—I saw the trade was not worth qualifying for. If your mother was a registered chemist and druggist purporting to be carrying on business, and you use her name, isn't she the legally responsible person?—For chemistry. You say that although you carried on the business in the name of your mother she had nothing to do with it?—No. I intended disposing of the business. All the twenty years you have been carrying it on?—Yes. What has been your average turnover?—About 4*l.* or 5*l.* a week. The Official Receiver: What would be your largest turnover in a week? Debtor: 7*l.* And the profit on a turnover like that?—It would be about 40 per cent. The Registrar: On some things sold it would be more than that. The Registrar suggested that the debtor had been insolvent since he made a deed of assignment ten years ago. He would not have been able to pay 20*s.* in the pound if his creditors had pressed him for it at any time during that period. Debtor said he did not think he could have done. A man started a similar business opposite to him, and trade was divided. His last assistant was a qualified chemist, and was known by the name of "Doctor," though not qualified to act as such. They started a small surgery. The Registrar: And the idea was to enable you to dispense? Debtor: Yes. The Registrar: If people came and wanted a bottle you would look at their tongues, feel their pulse, and then give a bottle, and charge 1*s.* for it? (Laughter.) Debtor: Yes, I suppose so. After further questioning the examination was closed.

Deeds of Arrangement.

Nicholson, William, 29 Whitehall Road and 20 Cavendish Terrace, Gateshead, chemist. Trustee, Robert N. Bowman, 39 Grove Street, Newcastle-upon-Tyne, accountant. Dated July 12; filed July 16. Liabilities unsecured, 294*l.* 11*s.* 10*d.* Estimated net assets, 215*l.* The following are scheduled as creditors:—

	£	s.	d.
Evans, Sons & Co., Liverpool	35	0	0
Foxall, —, Newcastle	30	0	0
Ismay, J., & Sons, Newcastle	150	0	0
Manners, J., Gateshead	30	0	0

Gibson, William Thomas, 16 and 18 Denman Street, Radford, Nottingham, chemist and druggist. Trustee, Henry Bradfield, 11 Victoria Street, Nottingham, accountant. Dated July 15; filed July 22. Liabilities unsecured, 417*l.* 6*s.* Estimated net assets, 333*l.* 5*s.* The following are scheduled as creditors:—

	£	s.	d.
Bleasdale (Limited), York	16	0	0
Hearon, Squire & Francis (Limited), London	31	0	0
Lofthouse & Saltmer, Hull	15	0	0
Oldfield, Pattinson & Co., Manchester ...	11	0	0
Panter, Woodward & Co., Bristol ...	11	0	0
Wyleys (Limited), Coventry	11	0	0
Cash Creditors.			
Gibson, A. B., Nottingham, ...	18	0	0
Gibson, T., Ilkeston	70	0	0
Howitt, J. C., Hucknall Torkard	45	0	0
Marsden, C. E., Stockbridge	32	0	0
Shepherd, Miss M. A., North Walsham ...	50	0	0

Gazette.

Partnerships Dissolved.

Smith, H. G., and **Clark, G. H.,** under the style of James Needham, High Road, Tottenham, N., mineral-water manufacturers.

Thackery, W., and **Braime, A.,** under the style of Thackery & Braime, Leeds and Wakefield, mineral water manufacturers, &c.

Wraith, P. G., and **Wood, H.,** under the style of Wraith & Wood, Folkestone, mineral-water manufacturers.

The Bankruptcy Acts 1883 and 1890.

Receiving Orders.

Freeman, Delamark, Dorset Square, N.W., surgeon.

Munday, John, Cardiff, chemist.

Norton, Ritchie Robinson, High Road, Tottenham, N., physician and surgeon.

Sturges, Frank, Southend Road, Beckenham, S.E., doctor of medicine.

Adjudications

Leese, Nehemiah, and **Jones, William** (formerly carrying on business with one William Adkins, now deceased, as Jones Brothers & Co), Milton, Staffordshire, oil-distillers.

Norton, Ritchie Robinson, Tottenham, Middlesex, physician and surgeon.

New Books.

Any book named in this list can be supplied post-free to any part of the world on receipt of the published price by the Publisher of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Braithwaite, J., and Trevelyan, E. F. *Retrospect of Medicine.* Vol. 123; January–June, 1901. Cr. 8vo. 6*s.* 6*d.* (Simpkin.)

Cross, C. F., and Bevan, E. J. *Researches in Cellulose.* 1895–1900. Cr. 8vo. 6*s.* net. (Longmans.)

Green, J. R. *Soluble Ferments and Fermentation* 2nd ed. 12*s.* (C. J. Clay.)

Hartridge, G. *Refraction of the Eye: a Manual for Students.* 11th ed. 7½ × 4⅞. Pp. 288. 6*s.* (Churchill.)

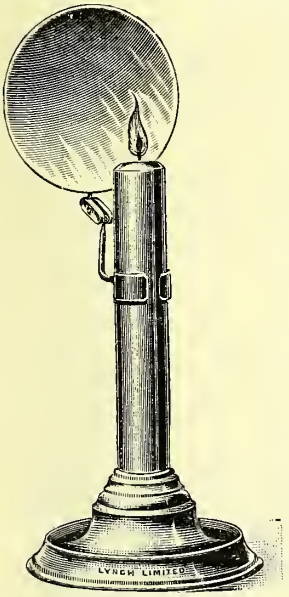
Norrie, H. S. *Induction Coils; How to Make, Use, and Repair Them.* 4*s.* 6*d.* net. (Spon.)

Thomson, J. H., and Redwood, B. *Handbook on Petroleum for Inspectors under the Petroleum Acts.* 9 × 6. Pp. 298. 8*s.* 6*d.* (Chas. Griffin & Co.)

Thorpe, T. E. *Humphry Davy, Poet and Philosopher.* 7½ × 4¾. Pp. 240. 2*s.* 6*d.* (Cassell.)

Novelties.

FOR THE SICK-ROOM.



THE engraving which we print below illustrates a night-light, for use in a sick-room, which possesses various advantages and novel features. An ordinary candle is fixed into the hollow stem, and is pressed upwards as the candle is consumed by means of a spring at the bottom, on the principle of the ordinary carriage-lamp. To the stem a reflector is clasped, the arm being jointed so that the reflector may be placed in any position. By this means the nurse or attendant may sit by a patient's bedside and read or prepare medicine or whatsoever is necessary without annoying the patient by the glare of a light in the room, the reflector effectually screening the light from the bed. Any further particulars desired of this inexpensive and useful apratus may be obtained from Messrs. Lynch & Co. (Limited), of Aldersgate Street, E.C , who are the makers.

SPECIALITIES FROM JEWRY STREET.

MESSRS. BAISS BROTHERS & STEVENSON (LIMITED), Jewry Street, E.C., are offering a new disinfectant, non-poisonous in character, under the name of "Pinesyl." It is a viscous amber-coloured fluid, which mixes readily with water to form an opalescent solution (or an emulsion when highly concentrated), and in the proportion of 1 part to 50 of water is used as a disinfectant for drains, and generally for deodorant-purposes. The special advantage of pinesyl is its agreeable fir-like odour. It is quite free from harshness; indeed, we find that it makes an excellent addition to the bath in the hot weather, as it partially softens hard water, and produces a pleasant odour and gives freshness to the skin. The firm have also introduced "Othniel" cascara perles in the same style as their concentrated santal perles. These we find present the full activity of cascara sagrada. They are offered at 10*s.* per dozen bottles. Those who are on the outlook for an impalpable precipitated chalk should get a sample of the "G. W. N." brand, which Messrs. Baiss Brothers & Stevenson offer. Two ounces of this fill a package as well as 3 oz. of the denser quality, and in colour and polishing property it equals the more common variety. We may also mention that the firm offer liquor colchicini salicylatis as a specific for gout and rheumatism.

AUSTRALIAN EUCALYPTUS OIL.

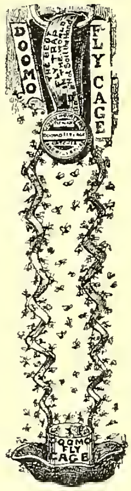
THE Tasmanian Eucalyptus Oil Company (Limited), 138 Leadenhall Street, London, E.C., the introducers of the well-known "Platypus" brand of *Eucalyptus Globulus* oil, bring under our notice another kind, which they are to call the "Royal" brand. The company maintain—rightly, we think—that globulus oil is the best; but since the British Pharmacopœia recognises eucalyptus oil from any source, which contains the proper percentage of eucalyptol, the company endeavour to meet the requirement by supplying the "Royal" brand. It corresponds with the Pharmacopœia factors, and contains about 70 per cent. of eucalyptol. It is of a pale-straw colour and of excellent aroma. Buyers can obtain samples of it on application to the company.

GLYCERIN TAR-SOAP.

THE N. K. Fairbank Company, of Chicago, and 10 Eastcheap, London, E.C., are introducing here a pine-tar soap under the above name. It is a large 3*d.* cake of soap, made with a good fatty basis, and containing, besides a small percentage of glycerin, a proportion of pine-tar, which makes the soap an excellent antiseptic and disinfectant. We have found it quite pleasant in use, and chemists and druggists will be able to recommend it to their customers, especially those who are troubled with dry or itching skin. It is one of the cheapest lines that has been brought under our notice for some time. The company will send a free cake of the soap to any of our subscribers who would like to see it.

THE FLY-CAGE

which Messrs. J. H. Smith & Co , of Newark, have introduced is a good companion to the "Flyodoomo" fly-catcher. The cage consists of a cardboard box filled with flyodoomo gum, attached to a small corrugated cardboard saucer. The lid of the box has attached to it on the surface a loop of parchment-paper, and inside is a long tape of similar paper which is embedded in the gum. On stretching out the tape and hanging the loop on something convenient overhead, the cage has the appearance shown in the figure. This is Messrs. Smith & Co.'s own idea, and they are applying for a patent.



VIBRONA ART.

MESSRS. FLETCHER, FLETCHER & CO. (LIMITED), Holloway, N., have just published as No. 11 of the Vibrona Art Series, "The Death of Cromwell," after the painting by D. W. Wynfield, in the South Kensington Museum. The reproduction, like the others of the series, is beautifully done, and is obtainable in like manner for 2*s.* 6*d.*

NEW LOZENGES.

THE Chemists' Lozenge Company, 123 Judd Street, King's Cross, London, are manufacturers of medicated and proprietary lozenges, jujubes, and other kinds of chemists' confectionery. One of their smartest things is the "Long Life Blood-tablets," which are a variation of the now popular sulphur lozenge, but they contain in addition extract of sarsaparilla and extract of liquorice, which much improve the taste. These they put up attractively in cartons to retail at 4*d.* or 6*d.*, and also supply them by the hundredweight, with suitable showcards to attract the public. There should be a good sale for these in working-class districts. The jujubes manufactured by the company contain no gelatin, the basis being picked gum arabic, and one peculiarity of the jujubes is that they are crystallised by a special process, so that they do not stick together. The same process of crystallising is employed for black-currant and glycerin jujubes. The company are also manufacturers of Izal lozenges, which are obtaining some popularity as an antiseptic; and they put up for chemists a palatable and sustaining chocolate called Staminal Lunch-chocolate. In addition to chocolate this contains nutrient proteids. The chocolate is handsomely put up in boxes at 6*s.* 6*d.* per doz , and seems to be an article specially suited for chemists' trade; also in packets to retail at 6*d.*

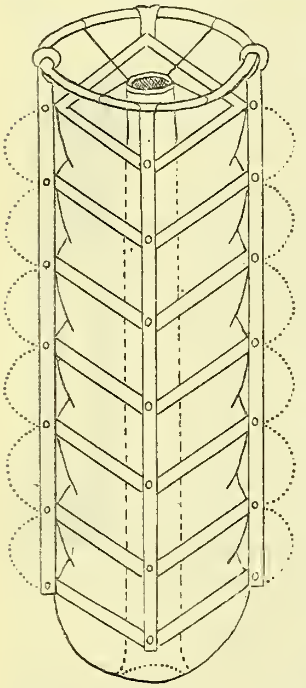
DENTAL REQUISITES.

Messrs. Elliott & Co., 22 Hanover Street, Edinburgh, are manufacturers of all kinds of materials used and required by dentists. Amongst their specialities is the "Paragon" brand of dental rubbers, and they are the sole agents for the new local anæsthetic "Alvatunder," which is having considerable success for painless dentistry.

HYGIENIC BINS.

Since our report of the Glasgow Exhibition, a display of Young's patent hygienic bins has been made in the machinery section. This is an opportunity for pharmaceutical visitors to make themselves practically acquainted with the advantages of the bins, the special feature being that there are no corners or crevices.

AUTO-PRESSURE FILTER.



The diagram in this paragraph represents the filter manufactured by Hermes's Automatic Filter Company, 32 Greyhound Road, Tottenham. It is a very clever affair, designed to present a large filtering-surface. The bag is conical in shape and is taped from top to bottom, so that when full it presents a corrugated surface (see dotted curves). The point of the bag is brought up to the top, in the same way as one turns a sock inside out, and the point is fixed to the rim-support at the top. The liquid is then poured into the filter, and it will be seen that it meets a surface on the outside and one on the inside. The liquid fills out the corrugations referred to and the tapes press upon these with some force, so that filtration is considerably expedited by pressure. The bag is made in several kinds of filtering-cloth, flannel, and canvas, and is, we understand, employed by a number of wholesale druggists for filtering various galenical preparations.

DARK-ROOM PIN.

EXACT SIZE.

The dark-room pin shown in the illustration is made by Messrs. G. B. Kent & Sons (Limited), 75 Farringdon Road, E.C. The pins are a great convenience to photographers for pinning up prints and films. The heads of the pins are of brass, and are shaped so that the pins can be easily grasped. They are sold in boxes of a dozen at 6*d.* each.

NEW DIGESTIVES.

Messrs. Fairchild Brothers & Foster, of New York, have recently introduced through their agents Messrs. Burroughs, Wellcome & Co., London, a preparation under the name of Enzymol for surgical use. This is for the purpose of treating unhealthy parts of the body with the object of digesting or dissolving such matters as dead tissue, pus, blood-clot, necrosed bone, and the like. One cannot imagine a more severe test of a peptic preparation than its external application, where its effect can be seen by denuding the tissue. Another preparation is Diazyme essence. This is made from pig's pancreas, and in cases of amylaceous dyspepsia it is more active than malt diastase, the enzyme being more akin to the digestive secretion of the human subject than diastase is. Diazyme essence has a pleasant vinous odour and taste.

MISCELLANEOUS.

The Erasmic Company (Limited), 117 Oxford Street, W., have issued a revised illustrated catalogue of their toilet specialities. The list is most artistically produced, and gives particulars of the Company's anti-cutting terms and cash discounts.

Royal-warrant Holders.—The King has granted Royal warrants of appointment to the following:—

Godes-Berger Company, of 17–18 St. Dunstan's Hill, London, E.C., as purveyors of Godes-Berger natural mineral-water.

Messrs. Everett & Co., blacking and boot-cream manufacturers, of 51 Fetter Lane, London.

Messrs. Davidson & Kay have been appointed chemists to the King.

Something to Drink.—The sample of "Sinaro" mineral-water which we have received from the Sinaro Springs (Limited), of Nastätten, Nassau, and 29 Ely Place, E.C., has proved a grateful oasis in a desert of thirst. The water has enjoyed a local reputation under the name of the "Schwall Spring" for a number of years, and its analysis, by Dr. R. Fresenius, of Wiesbaden, shows that it possesses all the attributes of an agreeable and efficient table-water. We can personally speak of its agreeable and non-nauseating properties.

Cash-registers.—The British Machine Company (Limited), of Halifax, have issued a new catalogue (which they will supply to any subscriber for the asking), containing illustrations, particulars, and testimonials of their various forms of cash-registers. The number of testimonials (many of them from chemists) augurs well for the popularity and utility of the company's machines, which we observe may be had at prices ranging from 2*l.* 10*s.* to 10*l.* A specially ruled paper is supplied to chemists, on which may be separately noted cash particulars of the business done in proprietary articles, dispensing, and sundries.

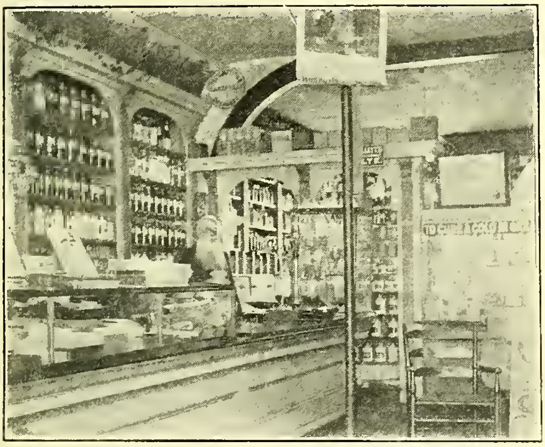
Druggists' Sundries.—We are in receipt of an advance copy of Messrs. F. Newbery & Sons' catalogue for 1901, which will be issued to the trade in a few days. The list of druggists' sundries, proprietary articles, and the perfumery and similar goods of this historic house is as interesting and complete as ever. Since the former issue 1,228 changes have been made, comprising 195 entries removed, 518 new entries, and 515 quotations modified. The minimum—and optional—retail prices appear against goods protected by the P.A.T.A., and the beneficial effects of the Association *contra* cutting are acknowledged. The interesting historical reproductions of documents connected with this firm are worthy of notice, and we observe that Messrs. Newbery have added a few more firms to their already long list of agencies. A useful sixteen pages are devoted to a discussion and explanation of the Medicine Act (52 Geo. III. c. 150), with extracts from other statutes applying to the sales of medicines, medicated wines, &c., and precautions to be observed when dealing with scheduled poisons. The new illustrated catalogue of photographic requisites, aneroid barometers, magneto-electric goods, &c., which is already in circulation, is an improvement on former productions in bulk, printing, and effectiveness.

An Advertising Idea.—Some time ago Mrs. O. H. P. Belmont, one of the shining lights of New York Society, announced that she would organise a patent-medicine quadrille as a novelty in a coming function. The idea caught on, and Society folk set what brains they possess in steep to design dresses emblematical of the various nostrums indulged in by the American nation. The proprietors of the patent medicines also "caught on," and besieged everyone likely to attend Mrs. Belmont's reception with suggestions, and in some cases money offers, for the display of emblems representing pills, liniments, ointments, and other proprietaries. The "commercial" side of the concern having dawned upon the organisers of the affair, "the brightest idea of the season" has had to be abandoned.

Pharmaceutical Veterans.

John Chaloner.

HITHERTO the experiences of our veterans have been confined to the trade-conditions existing in our own country, but the present interesting narrative throws light on the state of pharmacy in one of our oldest colonies. Mr. John Chaloner, proprietor of Chaloner's Drug-store, Digby, Nova Scotia, who says he "has the honour of being one of our earliest subscribers," was born in St. John, New Brunswick, in 1824. He was educated at the Grammar School, and in 1839 was placed with Messrs. T. Walker & Son, successors to Messrs. Walker & Macara, druggists, where he was put through the "rudiments." The store was lighted with whale-oil lamps, which had to be filled and cleaned every morning. Aprons were worn by the clerks, clean ones every day. A manservant was part of the staff. He tended the family horse, and also worked a large iron mortar which was provided with a spring of ashwood, so placed that the heavy pestle was sprung up. This mortar was kept in an outbuilding, and the crashing of it was something to be remembered. Antimony was imported from England in crystal, and powdered in this mortar. "Aloes," Mr. Chaloner writes, "was also imported in large cases; it was dried in shallow pans on the Canada square stove during the winter season in the front shop, the process occupying sometimes several days. Picra had a great run, and the aloes for it had to be dried and afterwards powdered in the large mortar. Calomel was much used, my employers getting 28-lb. pound parcels of it, sometimes two at a time in spring. It was then the custom to import a year's supply of drugs in the spring. Our firm patronised Barron, Harveys & Co. for English goods. Spt. æther. nit. was retailed after mixing with equal parts of water. Tinctures were made by maceration, with very coarsely-bruised materials. I have seen calumba in the whole discs used. Irishwomen called for 'seed physic' (salts, senna, and coriander-seed). Pills were made on the premises in 6, 8, and 10 lb. lots, antibilious, rhei co., and asafetida co. being most in request. One old fellow used to buy the latter by the ounce: we borrowed a pill-machine from one of our neighbours and all went to work to roll them out. The head of the house was a physician, and I had to hold the basin for many a patient who thought he ought to be bled regularly every spring. Enemas of bladder and pipe were common and plaster-spreading was prevalent. The medicine-chest business was good, whaling-vessels on a three-year voyage and merchant-vessels having to be provided and refitted. Wooden vessels were then built largely in St. John. Leeches were freely used and issue-peas and issue-plasters were often called for. Alcohol was very low in price in the U.S., 50c. the wine-gallon being the figure. My employers put up the old patents, Dalby's, Hooper's, Godfrey's, Bateman's, Turlington's, Steers' opodeldoc, British oil and ess. mustard. Hair oil we put up 10 gross at a time in English fancy flint ½-oz. and 1-oz. bottles, capped with bladder, and split skin over that. The retail demand for red hair-oil on Saturday evenings was great."



Interior of Mr. Chaloner's Drug-store, himself behind the Counter.

In 1850 Mr. Chaloner commenced on his own account and refitted his store in 1855. One feature of this store was a fountain in the window. It was about 2 feet above the floor and 4 feet in diameter, lined with sheet-lead. The outside was an oaken tub, the top being about flush with the bottom of window; the overflow was from the surface of the water, which was about 9 inches deep, and it remained in good order over forty years. At one time there were over thirty trout in it, one weighing over 2 lbs. When there were so many it was kept covered by a wire netting at night, to prevent the fish from jumping out. The display was a great attraction and a subject of much curiosity. During the St. John fire of 1877, early in the morning, when the water had to be shut off and everything was in confusion in the store, someone maliciously, it was supposed, threw a quantity of cayenne pods into the fountain, but the trout stood it till the water was turned on. This fire in St. John was the cause of Mr. Chaloner's removal to his present business in Digby, Nova Scotia, which he established in the same year. Digby is a town of about 1,400 population situated on the shores of a basin twenty miles by about ten, surrounded by hills. It is a popular summer resort for tourists, the climate being moderately warm. Mr. Chaloner runs a marble soda-fountain on the U.S. system. It is fitted with an iron Matthew's generator, and soda bicarb. is used, "as it makes nice pure gas, and is easier on the apparatus," comments Mr. Chaloner.

"Our prescription arrangements," he concludes, "are very complete for a country town. We have metric weights, but seldom have to use them. The town supplies free schools, waterworks, electric light, &c. Hotels are numerous, and the Dominion Atlantic Railway runs through the town."

Since the foregoing was put in type we have learnt that Mr. Chaloner has disposed of his business to Mr. H. E. Jones, and this is the brief "valedictory" which he has published in the *Digby Weekly Courier*:—

> At the close of my business career of over sixty years, I beg to offer my sincere thanks to my patrons, many of whom have dealt with me ever since I opened here in 1877. My successor Mr. Harry E. Jones, who has been with me some fifteen years, is a graduate of the N.S. Pharmaceutical Society, and holds their certificate, and therefore is well qualified to assume management of the business. Those who are indebted will please not fail to make prompt payment before June 10, which may be done at my residence, Water Street, or at the drug-store.
>
> Digby, May 31, 1901. JOHN CHALONER.

Evolution of the Bottle.

V. The Middle Ages.

(The next phase of the evolution is given on a later page.)

Correspondence

TO CORRESPONDENTS.—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. If queries are submitted, each should be written on a separate piece of paper. We do not reply to queries by post, and can only answer on subjects of general interest.

Early Closing of Shops.

Sir,—I am one of those who would wish to see the Early Closing of Shops Bill get a fair trial. But I am of opinion that the way to get at what those in given areas wish is to take a plebiscite of the shopkeepers, and let them approach their local authority on the subject. In my experience an unopposed provisional order costs one or two hundred pounds, and as I know the ways of Town Councils a little, I imagine they could make this the first and readiest excuse for withholding any help to the shopkeeper. To be workable the Legislature might make it that any local authority, upon a resolution of that body supported by two-thirds of the members present, could enforce the Act provided the plebiscite be favourable.

Yours truly,

St. Andrews, July 22. Wm. R. Kermath.

A Singular Discrepancy.

Sir,—If "Xrayser" will refer back to the *C. & D.* of 1869 I think he will find the Judges decided that "labelled in the manner aforesaid" in the latter part of Section 17 of the Acts of 1868 simply applied to the words "distinctly labelled" in the opening clause of the same section. But as the wording was confessedly obscure it was amended by the 1869 Act, which, if I remember rightly, was passed on the very day when the fatal prescription was dispensed at Worthing.

Yours truly,

"Three Score." (215/39.)

[The High Court Judges' decision was not given until February 14, 1870, and was reported in the *C. & D.* of March 15, 1870. The question of labelling does not appear to have arisen, but simply the question, Was the mixture prussic acid or a medicine in which prussic acid was part of the ingredients? The Judges decided to the latter effect. The phrases in the beginning and end of Section 17 are subjoined for the benefit of those who have not followed this matter closely:—

Beginning (for poisons sold by retail).	*End* (for poisons dispensed).
Labelled with the name of the article and the word poison, *and* with the name and address of the seller *of the poison*.	Labelled in the manner aforesaid with the name and address of the seller.

The italicised words are important. Perhaps "Xrayser" will deal with the matter again.—Editor.]

The Paris Exhibition of 1900.

Sir,—We have read with considerable interest the report of his Majesty's Commissioners for the Paris International Exhibition of 1900, referred to in the *C. & D.* of July 20, and cannot help thinking that those gentlemen would have displayed a spirit of greater fairness had they taken upon themselves some of the strictures they heap on the heads of the unfortunate British exhibitors. They have quite failed to bear in mind that exhibitors are, as a rule, firms to whom the cost of exhibiting is a very heavy outlay, and that as no proposal was made by the Commission (in our section, at least) for a collective exhibit, it is scarcely surprising that firms should have done the best they can for themselves in the matter of individual display. We succeeded, after repeated calls at the offices of the British Commission in Paris and dreary hours wasted in the waiting-room, in finding out where our allotment of space was. Under these circumstances the following paragraphs from the report surprise us considerably:—

> As a rule a British manufacturer will only exhibit if he can select his own goods, and display them in his own way and in his own showcase. He is impatient of advice; he will not submit to dictation; he will not share a showcase with others; nor will he join with others to adopt a uniform plan of arrangement.
>
> In many instances he regards his exhibits as of much more importance as an advertisement and a competition with rivals at home than as a comparison of his productions with those of other countries.
>
> For these reasons it is exceedingly difficult to organise collective exhibits.

We protest that no advice was offered and no question of a uniform plan of arrangement suggested in our section. On the other hand, the officials of the British Commission were obliged to confess that either through carelessness or want of knowledge on the part of one of the committees that allotted space, the greatest dissatisfaction occurred amongst exhibitors in at least one of the British sections. "The firm who has the biggest space in front and all the others behind" was the way the allotment was made in one instance, and this led to a portion of the exhibitors calling at the offices of the British Commission in a body. The inertia they met with there led to a scene, enacted in May of last year, which ended in the spokesman of the exhibitors saying, "After all, I am a British taxpayer and you are my servants." We merely give this as a part of our view of the way in which a portion of the report should have been drawn up to be quite fair.

Yours truly,

July 23. Exhibitors. (219/34.)

Soda-fountains.

Sir,—In reply to your correspondent re American Soda Fountains, I have pleasure in giving my experience which is, perhaps, as unique as any in England, as I had an American make last year, and have purchased one made in England this year, which, I am pleased to say, is equal to the American make. As to whether a soda-fountain pays, I may say I am more than satisfied, and the results have far surpassed my expectations. The fountain I now have is twice the size of the one I commenced with, and this is worked to its utmost capacity. I should most certainly recommend any chemist in a fair location to have one as soon as possible.

Yours truly,

Phosphate. (231/7.)

Boot and Lipton for the Cup

A correspondent in Pretoria writes us in the following vein:—"Some chemists here have asked me 'if it is true that, in the event of Sir Thomas Lipton's yacht, *Shamrock II.*, being defeated in August for the America Cup, Mr. Jesse Boot intends going into the ring, and the following summer will challenge America's best with the *Nottingham Lass*.' I said I would ask you, and perhaps you would reply in the *C. & D.* "A."

Legal Queries.

Before sending in a query for reply in this section see if the subject is not dealt with in "The Chemists' and Druggists' Diary," 1900, pages 212-226, and pages 259-262.

216/57. *Bromo.*—"The Crown Pharmacy" is a designation which may be legally used by a person registered under the Pharmacy Act, 1868.

210/40. *J. P. L.*—The title "manufacturing chemist" may not be used by an unregistered person who is in business as a retailer. The other titles which you mention are not infringements of the Pharmacy Act.

218/15. *Admiral* asks, Are spt. chloroformi, aq. chloroformi, cocaine, liq. cocainæ, ol. carbolic. poisons within the meaning of the Act? [There is some doubt about the chloroform-water, but all the other things are legal poisons; carbolic oil if it contains more than 3 per cent. of the acid. Cocaine is in Part I. of the schedule, and solutions of it are not specially provided for as in the case of strychnine.]

218/20. *Society.*—A label which says "Pure Vaseline, an unequalled preparation for chapped hands, roughness of the skin, &c." does not render the article liable to medicine-stamp duty, but the article may only be sold by persons holding a patent-medicine licence. Vaseline, however labelled, would be liable to the duty if it were not an entire drug.

219/26. *L.P.S.I.* writes:—"An unqualified assistant of mine sent out some cattle-medicine, with a poisonous dose marked on the bottle, as a result of which a cow was poisoned. I cannot dispute contents of bottle and label, and am paying for the cow, but wish to know am I or is the assistant liable?" ["L.P.S.I." is liable.]

Information Wanted.

Postcard replies to any of the subjoined inquiries will be esteemed.

216/25. Manufacturers of glass beakers and flasks.

216/53. Address of makers of the Clayton fumigator for destroying insects.

218/57. Name and address of maker of Kennie's nursery ointment in 3*d.* and 6*d.* stamped tins.

219/63. Makers of cases with push-up bottoms similar to those containing Roger & Gallet's lip-salve.

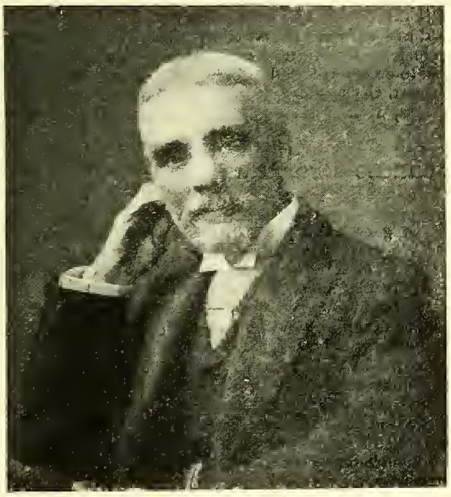
217/7. Who supplies ozonometer (Dr. Schonbein's), consisting of strips of paper prepared with iodide of potassium and starch?

Personalities.

Mr. Charles D. Hatrick, M.B., son of Mr. James L. Hatrick, sailed on Saturday last per s.s. *Dilwara* to take up a Government position as a civil surgeon in South Africa.

Mr George Culling, representative for Messrs. H. Gilbertson & Sons (Limited) in the North of England, Scotland, and Ireland for more than twenty years, has removed from Manchester to 24 Ingram Road, East Finchley, N. He is still working the same ground.

Mr. John R. Jackson, A.L.S., keeper of the Economic Museum, Kew Gardens, is retiring from the service on September 30. Mr. Jackson entered Kew in 1858, and he is well known to many readers of The Chemist and Druggist as a writer on botanical subjects in our columns. He is the author of the "Kew Museum Catalogues," several books on the "Economic Uses of Plants," and editor of Barton and Castle's "British Flora," and many other works dealing with botany.



Business Changes.

Mr. C. R. Leech, chemist and druggist, Gloucester, has removed from 56 Barton Street to 118 Barton Street.

Mr H. C. Broad, chemist and druggist, Reading, has bought the business of Mr. Ballard, chemist, Cricklade.

The Talbot Herbal Remedies Company (Limited) will open new premises at 33 West Street, Boston, on August 10.

Mr. L. North, chemist and druggist, has taken over the business of Mr. J. Clower at 22 Bridge Street, Northampton.

Boots (Limited), as soon as the necessary alterations are completed, are to remove their Bath business from the Corridor to Stall Street, Bath.

Messrs. M. Beetham & Co., chemists, have sold their retail business at 22 Promenade Villas, Cheltenham, to Mr. H. B. Clark, who will trade as "Beetham & Clark."

Messrs. S. B. Turney & Sons, pharmaceutical chemists, 183 Union Street, Plymouth, have taken over the drug-business formerly carried on by Mr. J. Scott, chemist, Bodmin, Cornwall.

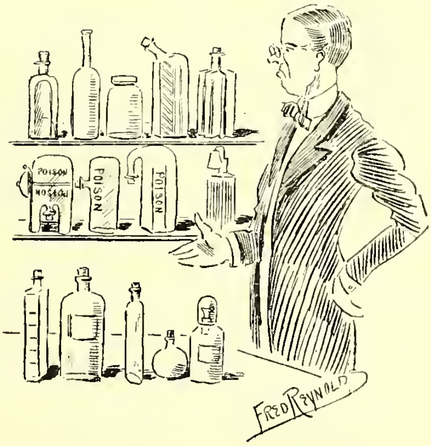
Owing to street improvements the premises of the Walcot Drug-stores, Bath, have been demolished, and the business has been removed to 1 Cleveland Terrace, Walcot, where it will be carried on by Mr. H. Norris, in succession to Mr. R. Hale.

Mr. Sutton having acquired a long lease of the premises occupied by Messrs. Merrikin & Sutton, chemists, Milsom Street, Bath, has disposed of the same to the National Provincial Bank (Limited), whose premises adjoin, and the old-established dispensing-business will shortly be removed a few doors lower down Milsom Street.

Forged Orders Finale.

At the Central Criminal Court on July 24, Frederick Williams, *alias* Archibald J. McIntyre, described as a chemist's assistant, pleaded guilty to forging and uttering orders, and obtaining by false pretences 8 lbs. of saccharin and other drugs from Ballantyne & Co., sixteen dozen boxes of Beecham's pills from Sutton & Co., six dozen hair-brushes from Kent & Sons (Limited), all on the order-forms of Wright, Layman & Umney (Limited), of Southwark Street, S.E.; also to obtaining in the same manner 300 oz. of quinine from Wright, Layman & Umney (Limited) on an order-form of Roberts & Co., chemists, Croydon. There was a further charge, to which prisoner pleaded not guilty, of forging an order for 156 lbs. of saccharin from the Saccharin Corporation (Limited), and in this case a carman, named Frederick Smith, was also charged with being associated with McIntyre in carrying out the transaction. Mr. Muir and Mr. Symons, instructed by Wontner & Sons, prosecuted on behalf of the Wholesale Druggists' Defence Association, and Smith was defended by Mr. Purcell, who contended that he was merely a "tool" of McIntyre. It was stated that McIntyre for some time past had been obtaining situations with wholesale firms, and, availing himself of the knowledge of their business, had carried out a system of forging the names of their customers to orders for delivery of goods, which he disposed of. A list of previous convictions was proved against McIntyre, who lived at one time in Hull. The Recorder said he was clearly an habitual criminal, and sentenced him to seven years' penal servitude. Smith was sent to prison for twelve months with hard labour.

Evolution of the Bottle.



VI. The Modern Bottle.

Trade Report.

NOTICE TO BUYERS.—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C.: July 24.

This report deals with market-movements up to Wednesday night. Later intelligence will be found in the Coloured Supplement.

BUSINESS is by no means brisk this week, and a good many articles appear to have a downward tendency. The chief alteration is a drop of 2*s.* 6*d.* in quicksilver, which had remained unchanged for about ten months. No alteration, however, is contemplated in mercurials. Senega is again 1*d.* dearer than last week, and golden seal is also tending higher. Menthol has advanced 6*d.* now that the Japanese market has been cleared, and American oil of peppermint is very firm. At the cinchona-auctions on Tuesday the unit declined ¼*d.*; the makers, however, have decided to make no reduction in quinine at present. Opium is quiet. The following are the principal changes of the week:—

Higher	Firmer	Easier	Lower
Chamomiles Menthol Senega	Golden seal Pepper	Acid, tartaric	Cinchona Ergot Oil, anise star (c.i.f.) Quicksilver

Arrivals.

The following drugs, &c., have arrived at the principal ports of the United Kingdom from July 18 to July 23, **both inclusive**:—Acid, boric (@ Paris), 43; acid, tartaric (@ Rotterdam), 24; arrowroot (@ St. V.) 192, (@ Halifax, N.S.) 30; bleaching powder, 28; calumba (@ Bombay), 118; canary-seed (Morocco), 392; castor oil, (E.I.) 145 cks., (Ital.) 10; chamomiles, 4; cinchona (@ Colombo), 34; cocaine, crude (@ Callao), 11; cocoa-butter, 11; coriander-seed, 300; cumin-seed (Mor.), 76; cus-cus (@ Suez), 2; drugs, (@ Hamburg) 6 bls. 13 cs., (@ Smyrna) 17; ergot (@ Hamburg), 4 bls.; essential oils (@ Messina), 44; fenugreek-seed, 37; galls (@ Alexandria), 36; ginger (Jam.) 41, (@ Hamburg) 85; glycerin, 43 (@ Rouen) 20; gum arabic (@ Alexandria) 160, (@ Bombay) 160 bgs. 60 cs.; honey (@ Jamaica) 50, (@ Dieppe) 43 pkgs.; insect-powder, 5; ipecac. (@ Colon), 5; lime chloride (@ Treport), 93; mustard oil (@ Calcutta), 22; olibanum, 60; olive oil (@ Genoa), 4 cks. 6 cs.; opium, 103; orris (Ital.), 9; pimento, 18; potash chlorate (@ Gothenburg) 80; potash oxalate, 11; quinine (@ Amst.), 2 cs.; roots (@ Hamburg), 17; saffron, 1; sandalwood, 8; sarsaparilla (@ Colon.), 5; senna (@ Suez), 9; squills, (@ Messina), 18; sulphur (@ Girgenti) 425 tons, (@ Catania) 621 cks.; tamarinds (@ St. Kitts) 43, (@ Barbados) 50, (@ Calcutta) 18 cks.; turmeric (@ Coconada) 159, (@ Madras) 200, (@ Bombay) 423, (@ Calcutta) 250 bgs.; wax, ceresin, 100; wax, bees' (Jam.) 43, (@ Hamburg) 50, (@ Mogador) 6, (@ Natal), 10 bgs.

Liverpool Drug Market.

Liverpool, July 23.

Castor Oil.—The quay having been cleared, the market for good seconds Calcutta has steadied somewhat, and $3\frac{7}{16}$*d.* to 3½*d.* per lb. may be considered value of this grade. First-pressure French is selling with more or less readiness at 3*d.* to $3\frac{1}{16}$*d.*, and second-pressure at 2⅞*d.* to 3*d.*, according to quantity.

Irish Moss.—Sales of 21 bales new crop are reported at 5*l.* 5*s.* per cwt. Fine sun-dried is held for 8*l.* per ton.

Gum Acacia.—More movement is observable in all grades, and further sales are reported in good soft Soudan sorts at 50*s.* per cwt., hand-picked amber description at 55*s.* per cwt., while sales of Ghezirah are recorded at 32*s.* 6*d.* per cwt.

Balsam Copaiba.—Two barrels more have arrived from Maranham, and will be offered at auction. They are expected to meet with considerable competition.

Turps is easier at 27*s.* 6*d.* per cwt., owing to arrivals.

Honey.—The stocks of Chilian are now becoming heavy, and a lower range of values may be looked for.

Beeswax.—Sales of Chilian are reported in 5-bag lots at 7*l.* 5*s.* and 7*l.* 10*s.* per cwt.

Chillies, Sierra Leone.—A small parcel of fine bright red, recently arrived, offers at 47*s.* 6*d.* per cwt., less having been refused.

Quillaia-bark.—Seventy-six bales just landed were sold at 13*l.* from the quay.

German Drug Market.

Hamburg, July 22.

Our drug-market is quiet, and shows very little business at present; the weather continues very hot.

Agar-agar is unchanged at 362½m. per 100 kilos.

Anise.—Russian is firmer, and spot delivery is held at 35m. per 100 kilos.

Balsam Peru is unchanged at 11¾m. per kilo.

Camphor.—Refined is very quiet, with second-hand sellers at 432½m. per 100 kilos.

Condurango-bark is steady at 100m. per 100 kilos.

Cumin-seed shows a quiet market; new crop at 60m. to 58m. per 100 kilos.

Cevadilla is quiet at 78m. per 100 kilos.

Ergot is dull, with spot sellers at 400m., and for forward delivery 375m. per 100 kilos. will buy.

Lycopodium is tending firmer at 420m. per 100 kilos.

Menthol is better at 25m. per kilo.

Ipecacuanha.—Rio is quoted 26½m. per kilo., and Cartagena 12½m.

Quinine is very quiet, with second-hand sales at 43m. per kilo.

Senega is tending firmer; to-day's quotation is 325m. per 100 kilos

Santonin is unchanged at 35m. per kilo.

Star-anise is very dull, and can be bought at 120m. per 100 kilos.

Turpentine quiet at 54½m. per 100 kilos.

Japanese Wax continues firm at 63m. per 100 kilos.

Carnauba Wax is unchanged at from 120m. to 160m. per 100 kilos., according to quality.

Oils (Fixed).—Cod-liver is steady at 65m. per barrel. Castor neglected and slow of sale, at 58m. per 100 kilos. for first-pressing in barrels. Indian corn showed a sudden rise here of 3m. per 100 kilos. to-day. Linseed is firm, but little doing. Rape quiet.

Essential Oils.—Star-anise is dull at 11¾m. per kilo. Peppermint is firm, with HGH at 6·40m. per lb. Japanese ditto, 7⅛m. per kilo.

Japanese Drug and Chemical Markets.

Yokohama, June 22.

Trade in general in this country remains bad, and further failures have to be recorded, owing to want of money, but there is every prospect of recovery. So far as the drug trade is concerned a good many articles are moving into consumption, although speculative business is absent. Since my last report there have been a few changes only in export stuffs. Ginger is very firmly held at unchanged figures, 13.50 yen per picul is nominally quoted. Menthol is weak, and though 7 yen per catty is generally quoted, this figure may be "cut" for a big quantity, as the holders are not so firm, owing to their financial condition. [This letter was written previous to the Japanese market being cleared.] Peppermint oil is also somewhat weak, and 1.70 yen per catty will buy; transactions are only small for China or Indian account. Refined camphor is firm at the unchanged rate of 1.05 to 1.08 yen, according to quantity per oz. tablets. Insect-powder is selling well at 65 sen to 75 sen per lb., according to quality, and price is firm, on account of short crop; this year importation of foreign stuff is practically nil. Copper sulphate is a shade lower, and there are sellers at 14 yen per picul; while sulphuric acid is quoted 2.30 yen per 100 lbs., export demand is small, owing to no steamer being available for such cargo. Iodine is somewhat cheap, as makers are anxious sellers now, and crude (95 per cent.) can be had at 3.15 yen or lower. Iodide of potassium is selling well at 3.60 to 3.70 yen per lb. for P. J. quality for both home and abroad; but recently the exportation to Europe has been checked, which fact is due to the fall in the convention prices. Iodoform is quoted at 5.50 yen per lb., and for resublimed 5.40 yen per lb. is wanted.

In import articles the price of boric acid has advanced, on account of speculative purchases, and present price is 16.50 yen per cwt., with sellers at 17 yen. Such advance would have taken place long ago, but there was a very heavy stock. Carbolic acid is very lifeless at 44 sen per lb. in 112-lbs. drums, demand being very light. Tartaric acid is selling well at 62 to 63 sen per lb., in kegs; but citric acid crystal is weak at 77 sen per lb. in kegs.

Sugar of milk is quite inactive at 21 to 20 yen per cwt., with no buyers even at this figure; stock is estimated at 600 cwts. Saffron is cheap at 18 yen per catty. Bismuth subnitrate is weak at 2.70 yen per lb., but as the stock seems to be decreasing of late, there is likely to be a sudden change, which is generally expected. There are no weak sellers now; 3.00 yen is generally asked, and if newly imported it costs a trifle dearer than importers' quotations. Quinine is weak at 65 sen per oz. for German and a few sen less for Java; stock is rather heavy, and holders want to sell; hydrochloride is firm at 97 sen per oz. and stock is comparatively light. Condurango-bark is cheap, business having been done at 30 sen per lb.; stock is large. Ergot is very slow of sale, and holders now ask 1.31 yen per lb. for prime. Senega is firm at 1.08 yen per lb., owing to short supply. Ipecacuanha is unchanged, 8 yen per lb. for Rio. Jalap is lifeless at 33 sen per lb. Santonine is very firm at 8.75 yen per lb. Chlorate of potash is very cheap, owing to lack of demand, and at present there are sellers at 16.75 yen per cwt., which is below cost. Caustic soda is 7.00 yen per picul for 60 to 62 per cent in drums, while for pure alkali 4.70 yen per picul is wanted.

Cablegram.

HAMBURG, July 24, 2.15 P.M.:—Western senega-root has advanced to 330m. per 100 kilos. Golden seal is also dearer at 550m. per 100 kilos. Menthol is firmer at 24½m. per kilo. for forward delivery. Turpentine is quoted 53½m. per 100 kilos. for American.

London Markets.

ACID, CARBOLIC.—Quiet. Ice crystals are quoted at 8*d.* per lb. for either 39° to 40° or 34° to 35° C.; 50 per cent. crude is 1*s.* 10*d.*, 60 per cent, 2*s.* 2*d.*, and 75 per cent. 2*s.* 5*d.* per gallon.

ACID, TARTARIC.—In better demand this week at slightly easier rates, English crystals or powder being now quoted at 1*s.* 0⅜*d.*, and foreign at 11½*d.* per lb.

BALSAM COPAIBA.—Genuine Maranham is quoted 2*s.* 4*d.* per lb. on the spot.

The exports from Maracaibo during 1900 amounted to 899 packages, weighing 36,587 kilos., against 927 packages, weighing 40,252 kilos., the previous year.

BENZOIN.—Sumatra has been in fair demand, principally between 8*l.* and 10*l.*, which grades are getting scarce. An improved demand has lately sprung up for Siam gum, and several parcels have been sold. Good almondy, part selected, is worth 15*l.* to 17*l.* per cwt. About 50 cases of Sumatra gum have arrived this week.

BUCHU.—For a few bales of inferior and stalky leaf 1*s.* per lb. has been paid this week. Good green round are scarce.

CANARY SEED is steady at 31*s.* 6*d.* per quarter for Turkish. A report dated Constantinople July 19, states that the market there is unchanged. New crop is not available at present.

CARAWAYS.—New crop Dutch is offered at 22*s.* to 23*s.* per cwt. landed terms.

CHAMOMILES.—Higher. New Belgian flowers of first pickings have been sold this week at 95*s.* to 97*s.* 6*d.* per cwt., c.i.f., and there are still sellers at these figures. Flowers of old crop have also advanced 2*s.* 6*d.*

CINCHONA.—At auction on Tuesday the small supply of 2,125 packages was catalogued, and met with a fair demand, the buying being principally for America. About half of the above quantity changed hands at a decline of ¼*d.*, the average unit being 1¾*d.*, against 2*d.* paid at the last London sale. Compared with the Amsterdam sale last week it is ⅛*d.* better. The above offerings contained 4,500 kilos. quinine sulphate, against 24,000 kilos. offered at Amsterdam last week.

The following were the quantities of bark offered and sold by the principal buyers:—

	Packages offered.	Packages sold.
East Indian cinchona	1,003	745
South American (principally Soft Colombian)	628	39
Ceylon cinchona	412	279
Java cinchona	78	63
African cinchona	4	4
	2,125	1,135

The approximate quantities of bark purchased by the principal buyers were as follows:—

	Lbs.
Agents for the American factories...	101,500
Agents for the Brunswick factory...	60,500
Agents for the Mannheim and Amsterdam factories	42,000
Agents for the Paris factory	32,500
Agents for the Frankfort and Stuttgart factories	9,700
Messrs. Howards & Sons	7,100
Agents for the Imperial factory	4,400
Druggists, brokers, &c.	31,200
Total quantity sold	288,900
Bought in or withdrawn	149,560
Total quantity offered	438,460

The prices paid were as follows:—

SOUTH AMERICAN.—Bolivian cultivated Calisaya fair quill, 9¾*d.* to 10*d.* Soft Colombian, 557 packages, imported in 1882 and 1883, were bought in.

AFRICAN (WEST COAST).—Dull quill and chips 4⅝*d.* per lb.

JAVA.—Ledgeriana crushed stem, 10¼*d.*; red original stem, 4½*d.* per lb.

CEYLON.—Ledgeriana original stem chips and shavings, 7⅜*d.*; hybrid original stem, 3¾*d.*; hybrid root, 3⅝*d.* Officinalis, renewed chips and shavings, 7*d.* to 9⅛*d.* Red stem chips and shavings 1½*d.* to 5⅜*d.* per lb.

EAST INDIAN.—Ledgeriana chips and shavings, 4*d.* to 6½*d.*; stem and chips, 3¾*d.*; broken quill and chips, 7*d.*; and branch, at 2*d.* to 3⅜*d.* Red chips and shavings, 2*d.* to 7*d.*; stem and chips, 2⅞*d.* to 3⅞*d.*; broken quill and chips, 3¼*d.* to 3¾*d.* Crown original chips and shavings, 2¾*d.* to 8⅝*d.*; renewed, 8⅝*d.* to 10½*d.*; stem and chips, 2½*d.* to 3¼*d.*; broken quill and chips, 3*d.* to 6½*d.*; branch, 2*d.* to 2⅛*d* per lb.

CLOVES.—Zanzibar are steady, the quotation for October-December delivery being about 3$\frac{11}{16}$*d.* per lb., but very little business is passing. A report of the spice auctions will be found in our coloured supplement.

COCOA-BUTTER.—The auctions to be held in Amsterdam on August 6 will consist of 45 tons Van Houten's, 1½ tons Helm, and 2 tons De Jong. The London auction has been postponed until August 13.

CORIANDER is slow of sale at 10*s.* 6*d.* per cwt. for new crop Morocco, and at 10*s.* for last year's crop.

CUMIN-SEED.—The new crop of Maltese is small, and is quoted from Trieste at 35*s.* per cwt., c. and f. gross for net. On the London market some parcels of Morocco have been sold at 22*s.* 6*d.*; and small lots at 25*s.* to 26*s.*

DRAGON'S-BLOOD.—The remainder of the parcel offered in auction last week has been sold privately at 9*l.* 10*s.* per. cwt. for fair bright lump.

ERGOT is tending downwards, Russian of the new crop being offered, to arrive, at 1*s.* 8½*d.* to 1*s.* 9*d.* per lb., c.i.f., according to holder, and new Spanish at 1*s.* 9*d.*, c.i.f., for shipment in about six weeks. There is practically nothing to be had on the spot.

FENUGREEK meets with more inquiry at 6*s.* to 6*s.* 6*d.* per cwt.

GALLS.—Prices of Persian galls continue irregular, some importers asking higher rates, while others have withdrawn their offerings. Advices from Bagdad report a small new crop, and prices remain high. The large stocks here, however, are still pressed for sale by some speculative holders, and for blues 55*s.* to 57*s.* 6*d.* per cwt. has been paid; and greens up to 50*s.*

GINGER.—Cochin is quiet at 36*s.* to 37*s.* per cwt. for washed rough.

GOLDEN SEAL is getting scarce, for spot parcels 2*s.* 2*d.* per lb, net, landed terms, is asked.

INSECT-FLOWERS.—A report from Trieste of July 15 states that during the past month large sales of both old and new flowers have been made at steadily advancing prices. The last crop has fallen short by more than one-third in many districts, and in some parts not even one-half of the average quantity has been harvested. The strong point in the position is, that although the next crop has already been prejudiced by the severe colds of the last winter, it takes the plants two years to give the usual yield. For a small lot of new open flowers the high price of 77*s.* per cwt., cost and freight, has been paid. The arrivals in Trieste during June amounted to 1,900 cwt., whereas the sales reached the high total of 2,112 cwt.

Ipecacuanha.—Since the auctions a few bales of Rio have been sold from first-hands at from 11*s*. 3*d*. to 11*s*. 6*d*. per lb. One importer is firm, however, at 11*s*. 9*d*. per lb. Cartagena is slow of sale; for arrival, 5*s*. 9*d*. per lb., c.i.f., is quoted. Eighteen bags of Cartagena root have arrived from Colon this week.

Jalap.—From Hamburg 5⅞*d*. to 6*d*. per lb., c.i.f., is quoted for fair.

Menthol.—The spot price has advanced 6*d*., Kobayashi crystals now offering at 12*s*. per lb.; for arrival 10*s*. 6*d*. is mentioned as the c.i.f. price. The Hamburg market is now reported to be very bare of spot stock.

Myrrh.—According to a Trieste report, no supplies have reached that market for many months, and the position is becoming stronger.

Oil, Anise, Star.—Quiet, with sellers at 5*s*. 3*d*. to 5*s*. 4*d*. per lb. For arrival business is reported at 4*s*. 9*d*. per lb., c.i.f., which is cheaper. A report from Hong Kong, dated June 21, states that the stock there amounts to at least 200 piculs.

Oil, Cassia.—There is a little inquiry for spot stuff; 80 to 85 per cent. c.a. is quoted 3*s*. 2*d*. per lb.

Oil, Castor.—A Calcutta report, dated July 5, states that the demand has been slack throughout, and, with increased production, prices are gradually moving downwards.

The exports from British India during twelve months ended March amounted to—

	1900–1901	1899–1900	1898–1899
Gals. ...	1,535,622	1,527,820	2,140,902

Oil, Cod-liver.—The Bergen market is without alteration, with slow sales at the former quotation of 64*s*. per barrel, f.o.b., for best Lofoten non-congealing oil. The expected advance has not taken place, and will probably not now occur before autumn. The exports from Bergen up to date amount to 6,140 barrels, against 4,606 barrels at the same period of last year.

Oil, Peppermint.—American keeps very strong both in the United States and here, but there is no change from the prices quoted last week.

Opium.—A very quiet market is reported in Persian opium, and only small sales have been made, at 12*s*. per lb. for fine; but for quantity this figure could probably be shaded. For new crop for forward shipment high prices are still asked, but there is no demand. Only retail sales of Turkey druggists' and manufacturing opium have been made this week. Good druggists' is worth 9*s*. 3*d*. to 9*s*. 6*d*., and common seconds 8*s* 6*d*. to 9*s*.

Smyrna, July 5.—A quiet market, sales for the week amounting to 16 cases only, including 5 cases Yerli talequale at 9*s*. 4*d*. to 9*s*. 9*d*., 6 cases Karahissar at 9*s*. 1*d*. to 9*s*. 4*d*., and 5 cases inspected ditto at 9*s*. 6*d*. per lb., c.i.f. Sellers on the growing markets, in consequence of the late rains and the small yield, are asking higher prices comparatively speaking for new crop to what old stuff is bought at on this market. The few baskets of opium that have appeared in Oushack and Karahissar have fetched as high as the equivalent of 8*s*. 10*d*. to 9*s*., which is equal to 9*s*. 4*d*. to 9*s*. 6*d*. when dried and available for shipment. Under these circumstances no reduction in price is expected later on. The arrivals amount to 306 cases, against 560 cases at the same time of last year.

Constantinople, July 15.—The sales during the past week amount to 2 cases "new" druggists', at 8*s*. 4*d*. The weather has been very fine recently, and the highland crops are being gathered in under the most favourable conditions. If weather continues fine (as at present), and buyers hold aloof, prices will take a downward turn. From recent reports, crop is estimated to yield about 5,500 to 6,000 cases, including Salonica. The market here, in sympathy with Smyrna, is quieter.

Constantinople, July 19.—The only transactions to report are 1 case "soft," at 9*s*. 6*d*., and 3 cases druggists', at 8*s*. 10*d*. per lb. The market keeps quiet, and decline is expected shortly.

The exports from British India during twelve months ended March amounted to:—

	1900–1901	1899–1900	1898–1899
Cwt.	96,681	93,378	92 827

Pepper is firmer, but without any quotable change in value. Singapore black is selling at 6*d*. per lb. both on the spot, and for future shipment. White pepper is steady at 9⅛*d*. per lb. for Singapore, and 8⅝*d*. for Penang.

Quicksilver was reduced 2*s*. 6*d*. per bottle to-day, the importers now quoting 9*l*. There will be no alteration in mercurials.

Quinine.—No alteration has been made in the makers price, and it is not intended to make any change at present In the second-hand market business has again been very quiet at about unchanged to steadier rates, small sales of good German sulphate having changed hands at 1*s*. 1¾*d*. For December delivery 1*s*. 2¼*d*. has been paid, and there are sellers for October at 1*s*. 2*d*.

Rose petals.—There is a fair demand for French, and agents continue to quote from 1*s*. 9*d*. to 2*s*. 3*d*. per lb., spot, according to quantity.

Saffron.—Advices from Spain state that stocks there are at present light, the lower, fair, and good qualities having been dealt in largely. Further supplies are shortly expected, but it is not anticipated that prices will decline yet awhile.

Scammony-root.—Small sales of a recent arrival have been made at 32*s*. 6*d*. per cwt., and a little more may be had at this figure. Scammonium very quiet.

Senega is again 1*d*. dearer; now 1*s*. 8*d*. per lb. net; forward delivery, is quoted 1*s*. 6*d*. net, c.i f. New York reports continue to intimate that the crop will be short, and prices will go still higher.

Shellac.—At auction on Tuesday about 500 cases offered, of which about 70 cases sold, including 50 second orange, without reserve, at 69*s*. to 70*s*. per cwt. for fine seconds, part hard block. A few odd lots of Button sold at 63*s*. for pale broken firsts, 56*s*. for ordinary seconds, and dark resinous 49*s*. per cwt. Privately, the trade demand with small sales of TN Orange on the basis of 59*s*. for fair.

Tragacanth.—Quiet after the recent good business, which appears to have filled buyers' present requirements. A few sales, however, in the common qualities (9*l*. to 11*l*.), are reported at easy rates, and the tendency is still towards lower prices. The following prices are quoted: Firsts. 15*l*. to 15*l*. 10*s*. per cwt.; seconds, 12*l*. 10*s*. to 14*l*. 10*s*.; thirds, 10*l*. 10*s*. to 12*l*.; and fourths, 8*l*. to 10*l*.

Turmeric.—There was no demand in auction, the offerings being bought in, including bulby to fair bright Madras finger at 23*s*. to 25*s*., whole bulbs at 20*s*., small rough split Cochin at 7*s* 6*d*., and ordinary Bengal finger at 20*s*. per cwt.

Valerian.—The price of Belgian is well maintained, at from 26*s*. 6*d*. to 27*s*. per cwt., c.i.f.

Vanilla.—The exports from Réunion during 1900 are officially declared at 95 tons (212,800 lbs.), valued at 151,006*l*., against 81 tons (181,440 lbs.), valued at 134,326*l*., in 1899.

Persian Tragacanth.

The British Consul-General at Bushire, in a report on the trade of the Persian Gulf, states that the gum-tragacanth industry is making rapid progress, and may eventually become an important item in the export-trade of the Gulf. The industry, however, does not appear to be conducted with any foresight or method, and may suddenly die if the operations for collecting the exudations are not manipulated scientifically. A few years ago tragacanth was quite unknown in Persia, and only the Kermanshah district contributed towards the exportation of that item *viâ* Bagdad. It is now only three or four years since both Shiraz and Ispahan have come forward to contribute towards this trade. The industry in the province of Fars is said to be capable of great improvement, and vast tracts of land full of the tragacanth-producing plant which were lying untouched before, are being much utilised. From the reports which have been received it appears that the peasantry employed in the collection of tragacanth work in a reckless manner, causing much damage to the plants, which are burnt down, after incision, to such an extent as to render the same field unproductive for some years to come. Though the tragacanth-fields are numerous and extensive, they will not be able to withstand the wholesale depredations which are now being perpetrated on them unless the Persian Government undertakes their supervision with a view to maintaining and improving the industry. As it is, this nascent industry brings into the country nearly 40,000*l*. annually, and is capable of extensive development if properly conducted.

Consular Counsel.

FROM THE PHILIPPINE ISLANDS AND PORTO RICO

we have poor reports of British trade, which is distinctly traceable to the extension of the United States tariff and protective methods. The full Dingley tariff is hard against all foreign trade, and until 1902 United States goods will pay only 15 per cent. of it, when they will probably be duty-free.

LEGHORN

is a town of importance in the continental drug-trade, for such heavy staples as carbonate of soda, copper sulphate, borax and boric acid, quicksilver, olive oil, orris, sienna-earths, soaps, &c., go to or come from there. His Majesty's Consul shows that it is a good market for carbonate of soda, as the imports last year amounted to 69,819 cwts. (12,645*l.*), which was the largest quantity of any year in the past decade. The soda is principally used in the manufacture of Italian piece-goods. Only 25 per cent. of the business was done straight with Great Britain. In sulphate of copper, also, we have lost considerable ground, as in 1897 the United Kingdom was represented by 89 per cent. of the imports, in 1898 by 96 per cent., and in 1899 by 76 per cent., but in 1900 our share of the trade dropped to 67 per cent. The decline is attributed to the success of the United States competition, overland imports from Germany, and the locally-manufactured article. Amongst the exports, the Consul devotes considerable space to orris, especially in regard to "worked" orris, for which there is still a considerable demand. Briefly stated, orris is "worked" up into beads, fingers, coloured grains, chips, and filings. The beads are made in twenty-two sizes, and not many years ago twenty millions were exported from Leghorn every year, but now the annual export has dropped to about four million. The beads principally go to Lyons, where they are used as a remedy against scrofula and certain diseases of the blood. The orris "fingers" are used like the old-fashioned coral for infants' gums, and some 500,000 of them are sent to Germany, Austria, France, and the United States. The fingers are flat and oval-shaped, and are secured by a silk-thread which passes through a hole in one end. The industry is quite modern, and seems to have travelled from Germany to Italy, having been started at Ebingen. The "finger" is little known in this country, but probably deserves to be better known, for the Consul states that the slight quantity of juice which is absorbed in the process of sucking is an excellent digestive, a statement which it would be hard to controvert [These infants' fingers were brought under our notice a few years ago, and were taken up by some chemists in England. It would be interesting to know with what success.—EDITOR.] Samples of orris-root products in all forms have been sent to the Association of Chambers of Commerce, where they may be seen on application to the Secretary. It will interest dealers in orris to know that the syndicate still holds a portion of the large stocks acquired during the last two years, but refuse to sell at current prices, which would, of course, involve a considerable loss, as the market now stands about 27*s.* to 30*s.* per cwt., owing to lack of demand.

Interesting about Orris.

There are three quicksilver mines in Italy, and between them they exported last year 5 016 cwt. Cinnabar (48 846*l.*), an increase on previous years. The Consul speaks well of the industry, especially as regards Tuscany, where the cinnabar obtained is locally said to be in every respect equal to that obtained from Almaden. On the London market, however, there is a difference of 2*s.* to 2*s.* 6*d* per bottle in the price of the quicksilver. Great Britain takes 95 per cent. of the exports from Tuscany. A sixty-one-page report on

MALAGA

and district yields us very little except in the way of statistics. The exports of aniseed and cumin-seed decreased from 1899 to 1900 by 8 tons and 3 tons respectively. Of olive oil there was a short crop, and it was not of first rate quality; 15 769 tons of it were exported from Malaga against 13,422 tons in 1899; liquorice-root fell from 63 tons 1899 to 13 tons in 1900.

New Companies.

WILLIAM SIMPSON & CO. (LIMITED).—Capital 5,000*l.*, in 1*l.* shares (1,500 preference). Objects: To carry on the business of manufacturers of and dealers in aërated and mineral waters, herb-beer, liquors, cordials, beverages, jams, jellies, essences, fruit-compounds, drugs, chemicals and chemical products, &c. No initial public issue. The first directors are W. Simpson and Isabella Simpson. Qualification, 100*l.* Registered office, Cawdor Street, Walkden, near Manchester.

DEE MINERAL-WATER COMPANY (LIMITED).—Capital 4,000*l.*, in 1*l.* shares. Objects: To acquire the business carried on by G. Wilson at the Westminster Works, City Road West, at the Portland Works, Seller Street, Chester, at the Pontygarreg Buildings, Wrexham Street, Mold, and at Crescent Road, Wrexham, as "Parker and Clegg, or the "Dee Mineral-water Company," and to carry on the business of mineral-water manufacturers, &c. No initial public issue. The first directors are G. Wilson, H. L. Hutchison, A. P. Ford, and G. Munro. Qualification 100*l.* Remuneration as fixed by the company.

CAMINA NITRATE COMPANY (LIMITED).—Capital 50,000*l.*, in 1*l.* shares. Objects: To acquire certain lands, nitrate deposits, and works known as the Camiña Officina and Nitrate Grounds, in the province of Tarapaca, Chili, and to carry on the business of manufacturers and exporters of and dealers in nitrates, iodine, and other products, mine owners, explorers, &c. The first directors are H. W. Lowe, D. Arthur, G. Bush, R. E. Morris, and W. J. Petrie. Remuneration, 200*l.* each per annum, and 100*l.* extra for the chairman. G. Bush and R. E. Morris may retain office until removed by the debenture holders, or until the first issue of 50,000*l.* debentures has been paid off. Registered office, 36 Lime Street, E.C.

POWER GAS CORPORATION (LIMITED).—Capital 350,000*l.*, in 1*l* shares (100,000 preference). Objects: To acquire any patents and rights relating to the production of fuel, gas, sulphate of ammonia, and other by-products; to adopt agreements (1) with Dr. L. Mond and (2) with E. J. Duff and the United Alkali Company (Limited) to manufacture from coal, &c., gas, ammonia, sulphate of ammonia, and other by products. The subscribers are to appoint the first directors, subject to the right of Brunner, Mond & Co. (Limited), Dr. L. Mond, The United Alkali Company (Limited), and E. J. Duff to nominate one director each, so long as they hold 2,000 shares (provided that Dr. L. Mond and E. J. Duff may not exercise such right while they are themselves directors). Qualification, 500*l.* Remuneration, 3,500*l.* per annum and a share in the profits, divisible.

PAN DE AZUCAR NITRATE COMPANY (LIMITED).—Capital 110,000*l.*, in 5*l.* shares Objects: To acquire Messrs. Gibbs & Co.'s interest in certain nitrate grounds known as Pan de Azucar, situated in the province of Tarapaca, in the Republic of Chili, South America, with the rights, &c., and to carry on the business of manufacturers of, dealers in, and exporters of, iodine, nitrates, and other products of all kinds. The first subscribers are:—H. C. Gibbs, 15 Bishopsgate Street Within, E.C., merchant; J. I. Smail, Warren Wood, Hayes, Kent, gentleman; H. W. Sillem, The Pines, Horsell, Surrey, gentleman; B. Cokayne, 15 Bishopsgate Street Within, E.C., merchant; J. Lungley, 124 King Henry's Road, South Hampstead, cashier; F. L. Gibbs, 6 Vere Street, London, W., B.A.; and F. Dawes, 50 Old Broad Street, E.C., solicitor. Minimum subscription, 22,000 shares. The first directors are H. C. Gibbs, B. Cokayne, H. W. Sillem, and J. I. Smail. Qualification, 500*l.* Remuneration, 1,500*l.* per annum, divisible

F. W. BRADLEY (LIMITED).—Capital 50,000*l.*, in 1*l.* shares (20,000 6-per-cent. preference). Objects: To acquire the business carried on by F. W. Bradley at Wisbech, Cambridgeshire, and elsewhere, and to carry on the business of extractors, stoppers, and crowners of natural teeth, manufacturers of artificial teeth, makers of surgical and anatomical apparatus and appliances, makers of and dealers in all substances used or sold by dentists and dental surgeons, &c. The first subscribers are:—C. H. Goldsmith, 18 Gunton Road, Clapton, wholesale importer and exporter; G. F. Keys, 43 Brewster Gardens, St. Quinton's Park, W.; E. G. Bishop, 93 Leadenhall Street, E.C., manufacturer; F. W. Taylor, 134 Loughborough Park, S.W., secretary; F. R. Marshall, 67 Euston Road, N.W., barrister; G. A. Judge, 14 The Parade, High Street, Watford, builder; and A. W. Watson, 93 Leadenhall Street, E.C., manufacturer. Minimum cash-subscription, one-fifth of the total capital. The first directors are F. W. Bradley and E. G. Bishop. Qualification, 100*l.* Remuneration, 100*l.* per annum, divisible. Registered office, The Castle, Wisbech, Cambridgeshire.

K K

Westminster Wisdom.

Medical Acts Amendment.

We understand that the Bill to amend the Medical Acts, 1858 to 1836, prepared and brought in by Sir Richard Jebb, Sir William Anson, Mr. J. A. Campbell, Sir Michael Foster, Mr. Lecky, Mr. Talbot, and Sir John Batty Tuke, on behalf of the General Medical Council, has been dropped for this session.

Cocaine-poisoning.

In the House of Commons on July 23, Mr. Macdona asked the Home Secretary whether his attention had been called to the death of two actresses caused by taking poisonous doses of cocaine, and, considering the increase in the practice of taking this drug internally, whether he would take steps, by legislation or otherwise, to place some restriction on the sale of cocaine except to medical men and others skilled in its legitimate use.

Mr. Akers Douglas, who in the absence of Mr. Ritchie answered the question, said: I am informed that a committee of the Privy Council has been appointed to consider the first schedule of the Poison Act, 1868, and that the matter will be referred to them.

Alkali, &c., Works Regulation Bill.

In the House of Commons on July 23 the adjourned debate on the second reading of this Bill was resumed.

Mr. Caldwell (Lanark, Mid) traced the history of legislation on this subject from 1863 onwards, and pointed out that the present Bill was not only peculiar in its construction, but that its provisions were framed in a most unusual and unbusinesslike way.

Mr. Long (Bristol, S.) said the Bill was proposed solely in the interest of the public, and the hon. member was the only one who opposed it. What was sought to be legalised was what the inspectors found to be right. A great deal of trouble had been taken in the preparation of the Bill, which he believed would effect a real remedy for the evils they wished to grapple with. The alkali-manufacturers had been most fair in their representations, and amendments had been agreed on to meet their case. It was proposed that those who employed the Hargrave process or any new process should be liable to employ only "the best practicable means." The Bill was drafted solely in the interests of public health.

Mr. O'Mara (Kilkenny, S.) moved that the Bill be read a second time this day three months. It was a wholly unnecessary interference with the manufacturers.

Sir J. Brunner (Northwich) assured the House that this Bill, in what he hoped would be its final shape, would do no harm to any alkali-manufacturers in England or in Ireland. He was satisfied that what would suit English manufacturers would suit Irish manufacturers. He hoped that the principle of perfect frankness between the Department and the trade would be adhered to.

Mr. Burns (Battersea) cordially supported the Bill so far as it went, but the last speech seemed to indicate that it did not go far enough. Judging from the appearance of the country around these works, the gentlemen of high scientific attainments by whom they were conducted had not shown much consideration for the neighbourhood and their neighbours. (Hear, hear.) He hoped the President of the Local Government Board would insist upon nothing less than the Bill, and would not be prevailed upon to whittle it down. The restrictions which had been placed by law upon noxious industries had benefited them because means had been devised by men of scientific attainments for turning waste products to profitable use. If the smoke from Doulton's factories on the Lambeth side of the river which offended ladies who came to tea on the terrace in too great numbers—(Ministerial cries of "Oh")—Yes, in too great numbers—(hear, hear)—and which injured the fabric of the Parliament House itself could be checked, if not put a stop to, it would be an advantage.

Mr. Cross (Glasgow, Camlachie) supported the Bill. He accepted the assurance of the President of the Local Government Board that it was not intended to interfere unduly with new processes of manufacture.

Mr. Field also supported the Bill, which was read a second time, at midnight.

Marriages.

Bush—Ellerton.—On July 18, at St. Mary Abbott's, Kensington, by the Rev. Canon Pennefather, Alexander Bush, fifth son of the late William John Bush, of Thornleigh, Sydenham, and Bishopsgate, to Grace O'Hara, only daughter of the late John O'Hara Ellerton, of Montgomery, Virginia.

Duncan—McMichael.—At Edinburgh, on July 19, David Draper Duncan, chemist and druggist, Edinburgh, to Agnes, younger daughter of the late Mr. Malcolm McMichael, Glasgow.

Garland—Haworth.—On July 18, at Great Harwood, Alfred Harry Garland, chemist and druggist, youngest son of Mr. A. P. Garland, pharmaceutical chemist, Blackburn, to Maud Haworth, second daughter of Mr. B. Haworth, solicitor, Great Harwood.

Leslie—Smith.—At Almora, Haddington, on July 17, by the Rev. R. L. Walker, U.F., Haddington, assisted by the Rev. G. D. Robertson, U.F., Leith, William Leslie, chemist and druggist, Haddington, to Nellie D. Spence, younger daughter of the late Thos. Smith, merchant, Haddington, and Mrs. Smith.

Deaths.

Ball.—On July 8, Mr. John Arthur Ball, chemist and druggist, Islington, N. Aged 34.

Carruthers.—At Liverpool, on July 12, Mr. Edward Sanderson Carruthers, chemist and druggist.

Clements.—On July 9, at Southwell, Notts, Mr. Thomas Clements, chemist and druggist. Aged 85.

Dulley.—Suddenly, at Cromer, on July 22, Mrs. Dulley, wife of Mr. D. Dulley, chemist, Church Street, Cromer. Mrs. Dulley, who was taking cocaine for a dental operation, exhibited alarming symptoms, and expired shortly afterwards.

Lloyd.—At Hanley (Staffs), on July 11, Mr. Edward Lloyd, chemist and druggist. Aged 55.

Maisch.—At Philadelphia, on July 1, from appendicitis, Dr. Henry C. C. Maisch, eldest son of the late Professor John M. Maisch, of Philadelphia, U.S.A. Dr. Maisch had been trained in pharmacy, and graduated at the Philadelphia College of Pharmacy; subsequently he studied at the University of Göttingen, where he took the degree of Ph.D. On his return to the United States he assisted his father privately in pharmacognostic work, and it was their intention to collaborate, when the death of Professor Maisch upset their plans. Afterwards Dr. Maisch went into business on his own account, but at the time of his death he was with Messrs. Hance Brothers & White, manufacturing chemists, Philadelphia. He edited the last edition of his father's text-book on materia medica. He has left a widow and two children.

Ormerod.—On July 19, at Torrington House, St. Albans, Miss Eleanor A. Ormerod, LL.D. Edin., the distinguished agricultural entomologist. Aged 73. Besides an annual report, by which Miss Ormerod is most widely known, she has given many valuable contributions to scientific literature—a "Manual of Injurious Insects"; a "Guide to Methods of Insect Life," 1884; a "Text-book of Agricultural Entomology," 1893; "Observations on Injurious Insects of South Africa," 1889; a Handbook of Insects Injurious to Orchard and Bush Fruits," 1898; "The Cobham Journals" (Meteorological), 1880; and "Flies Commonly Injurious to Live Stock," 1900. For a number of years Miss Ormerod acted as consulting entomologist to the Royal Agricultural Society of England.

Smith.—On July 15, Mr. John Ord Smith, pharmaceutical chemist, at 68 Brixton Road, formerly of New Bridge Street, E.C. Aged 42.

Thonger.—At Birmingham, on July 20, Mr. Gilbert Thonger. Aged 75. Mr. Thonger was a well-known pharmacist of the old school, and was at one time a prominent member of the Midland Pharmaceutical Association. He formerly had a first-class business in Broad Street, Birmingham, and afterwards removed to Harborne to the shop now owned by Mr. W. A. Shaw, chemist and druggist. From there he went to Bearwood Market, Smethwick, where he had a small business for some time, but subsequently retired into private life. In recent years Mr. Thonger suffered much from deafness and general ill-health.